MARKETING CANADA'S WHEAT

JAMES E. BOYLE, Ph. D.

TORONTO, CANADA
1919

Marketing Canada's Wheat

BY

JAMES E. BOYLE, Ph. D., Professor of Rural Economy,
New York State College of Agriculture,
Cornell University, Ithaca, New York, U.S.A.

Author of *Agricultural Economics; Marketing of Agricultural Products, etc.* Formerly Field Agent in Marketing with the United States Department of Agriculture.

PUBLISHED BY
THE WINNIPEG GRAIN EXCHANGE
WINNIPEG

CONTENTS

I—Introductory

Canada is a country of vast virgin resources. The United States is sometimes spoken of as the richest country in the world, due to the immense progress of both agriculture and industry in that country. The fact is, however, that Canada is a country of larger area, and of far greater wealth in natural resources per capita. With a balanced development of Canadian resources, coupled with an equally balanced growth of those two great arteries of economic life,—transportation and banking, this country is destined to be the wealthiest country in the world. Already her exports per capita have a value four times those of the United States.

The virgin resources of Canada are made up of her water power, her coal, her mines and her minerals, her forests, her fisheries, her wild game and fur bearing animals, and her soils. The products of agriculture, however, far exceed those of any other industry in value. And of all the agricultural crops, wheat is one of overshadowing importance, from the standpoint of its money value. The prairie provinces of Canada constitute a new agricultural empire, still in the one crop stage typical of semi-exploited areas in the extractive stage of development. The one crop system of the prairie provinces gives to Canadian wheat an additional and tremendous importance to the wheat growers of this new country.

Natural Difficulties

There are many natural difficulties in the way of the Canadian wheat farmer. He is located five thousand miles from his chief market. This is his first great handicap. This natural handicap makes it all the more necessary that the channels of trade be kept open and free from all trade abuses, and that every modern, scientific and technical device that can be in-

vented or discovered be put at the service of the grain farmer. In addition to his long distance from market, this farmer is facing another natural handicap: living north of the 49th parallel of latitude, he may and often does have early frosts, when the wheat is still in the milk stage; he may and often does have summers which are too dry or too wet; he may have hail, or rust, or smut, or weeds, or hybrid wheat, or undesirable mixture of wheat varieties and classes, or other grains not easily separable mixed in his wheat, such as barley, ergoty rye, etc.

Natural Advantages

On the other hand the Canadian farmer has certain natural advantages which go far to offset these natural disadvantages. His hard spring wheats are, most of them, of a high quality and are much sought after by the foreign millers. Canada's competitors are the wheats of Australia, Argentine, and the hard winter and Pacific white wheats of the United States, and the Karachi wheat of India. These wheats all meet in competition in the markets of London, Liverpool, and the continent. But the No. 1, No. 2 and No. 3 northern wheats of Canada hold their place at the top of the list, or near the top of the list, in competition with all these other wheats.

The Canadian farmer has the further advantage of large yield per acre (compared with other new countries), and low cost of production. He has the further advantage of the most modern farm implements in the world, and the most modern and scientific technical equipment for the transportation, storage, cleaning and handling of his wheat from the local elevator to the sea-going vessel. Ample liquid credit is also provided by means of the various forms of grain paper.

When the farmer of Canada balances his advantages against his disadvantages he realizes what an important thing it is for him and his country to have a good grain marketing system. What is meant by a

good grain marketing system for Canada will be made clear, it is hoped, by the analysis and discussion in the succeeding pages.

Some Marketing Principles

There are certain marketing principles which are so firmly established as to have the binding force of economic law. Marketing is usually defined as getting the products from the producer to the consumer. There are three parties interested in the marketing process, namely, the consumer, the producer, and the middleman, and of these three the consumer is the most important. In the end, the consumer is the only market the farmer has, and the satisfied consumer is the best market. The farmer unfortunately has been marketing wrong end to. He has thought of himself as producing food which the consumer must of necessity buy and eat or perish of hunger. But the consumer has so many alternates and choices that the market is a "buyer's market" and not a "seller's market." In other words, the farmer ought to think of his job as that of producing the commodity the consumer wants, and in such quantity and quality as the consumer wants. The consumer is the principal, and the farmer is his agent. When the marketing process is viewed from this standpoint, it is seen that the consumer is the most important of the three parties involved in marketing; the farmer is the second most important; and the so-called middleman is the least important of the three. The middleman system is always changing to meet new conditions, and is sure to keep on changing to meet the future developments in both consumption and production. Food habits change. Production methods change. Shifts in agricultural production have been frequent in the past, and doubtless will continue to be frequent in the future. Some of these shifts have been forced on the farmer; some he has made voluntarily. Shifts in agricultural production in the end must and will conform to the consumer demand, to what the consumer votes for by his purchases. For we are living in an age of commercial agriculture, an agri-

culture, that is, which sells its products on the market. And the consumer is the market. The consumers may seem to the farmer to be a silent, passive, inert mass. But, to repeat, the consumer is the market, and in his hand rests the final power of giving or withholding patronage, and so of making or breaking any industry.

The marketing of Canada's grain will be considered in the following pages from the three standpoints, consumption, production, and some of the middleman's services.

II—Consumption.

Who are the consumers of Canadian wheat? What do they want and when do they want it? An inquiry must be made into the quantity and quality of wheat bought by the consumers, and the purpose for which this wheat is bought. Obviously, the main purpose of wheat is to make bread. Most of the Canadian wheat, seventy-five per cent. of it in fact, is sold overseas. Foreign buyers are therefore the chief consumers, and will continue to be so for a long time. As stated before, they have their choices among many different wheats from the two hemispheres and the six continents. Their food habits, particularly their bread habits, influence their choice of wheats, and their choice of wheats affects the demand, and so the price of Canadian wheat. At this point attention will be called to the consumer's changing bread habits.

Bread

The bread problem is the age old problem of the world. Half of the people in the world have not tasted or even seen our wheaten loaf. To pass from a diet of millet seed or rice or rye or corn to the white loaf of bread is considered a mark of a higher standard of living. The early settlers in the United States, for instance, depended for their bread grain at first entirely on Indian corn (maize). Wheat was considered the more refined food. Even yet in some sections corn forms the more important bread grain. The per capita consumption of wheat varies remarkably from State to State, the variation being from a low of 3.6 bushels in the four southern States of Georgia, Alabama, Mississippi and Arkansas, to a high of 7.2 bushels in New Mexico. That is a range of 100 per cent. The old south still sticks to corn bread.

In other parts of the world, the variations in bread consumption are extremely large. The average per

capita consumption of wheat for the ten years before the world war for the various countries was as follows:

Annual Per Capita Consumption of Wheat by Countries, averaged for the ten years, 1904-05 to 1913-14

	In bushels		In bushels
Germany	3.2	Russia in Europe	2.3
Belgium	8.4	Rumania	1.8
Bulgaria	4.7	Canada	9.9
Denmark	3.8	United States	5.5
Spain	5 8	India	0 9
France	8.0	Japan	0.5
Great Britain and Ireland	6.0	Algeria	5.2
Italy	5 9	Tunis	3.7
Norway	1.5	Egypt	1.6
Netherlands	4.2	Argentina	5.9
Serbia	2.2	Chili	4.0
Sweden	2 5	Uruguay	3.9
Switzerland	3.1	Australia	5.8
Austria-Hungary	3.3	New Zealand	6.7
Hungary	4.0	China	7

A study of the above table shows some interesting possibilities of shifts in wheat consumption and so in wheat production. Taking an extreme case—if India consumed as much wheat per capita as France, India alone would consume almost the whole world's wheat crop in its present volume. On the other hand, if the countries of western Europe each consumed as little wheat per capita as Norway, then Canada's wheat crop alone would be far too large to meet all the world's import requirements. Germany and the Scandinavian countries still stick to rye bread.

As long, however, as the wheat bread eaters of the world continue to have incomes enough to support the "white bread" standard of living, and so long as plenty of wheat at a reasonable price is available for making good bread, we may look for an increase in the per capita consumption of wheat in those countries of low consumption.

What is Good Bread?

The value of wheat depends almost entirely upon its milling and baking quality, which can be accurately determined only by actual milling and baking tests.

Since the main purpose of wheat is to make bread, the question may be asked, what constitutes good bread, and what kinds of wheat produce the desired bread? As every traveller knows, bread in Italy and France is not like bread in England or Scotland; neither is the bread in Canada like the bread in the United States. Bread must appeal to the eye as well as to the palate, and hence its appearance as well as its taste is important. The head of one of the large baking companies in Glasgow described the flour which makes good bread in these words:

> "We want, first, color—a creamy whiteness without bleaching. Bleaching destroys the bloom. Second, strength—high gluten content with that quality we describe as distensibility. It will stretch, and not break or crack. It has high absorption. I want it to take up water, and I want my bread to keep, not get stale quickly. Third—bloom or silky appearance and touch. Fourth—flavor and aroma — free from bad odors, nutty when baked. Fifth—starch, fine quality, not easily described but easily detected. Sixth—moisture content low. I want to add the moisture. It is very important that the deliveries of the same brand of flour be uniform."

A good loaf of bread in the Old Country, according to the findings of Dean W. J. Rutherford, must have seven qualities: (1) volume, length and height with perfect shape; (2) color—whiteness of crumb with bloom; (3) porosity; (4) texture firm but not too solid; (5) elasticity—it should retain or regain its shape under pressure and be relatively light; (6) crust—reddish brown tint or clear yellowish red. It must not be opaque or leathery, nor flake off; (7) flavor—sweet to the smell and taste. Strongest aroma given off when loaf is fresh from the oven.

There are other and more minute tests of good bread. The color and texture of the crumb must be right. The texture requirements are: small cells, uniform in size, thin walled; walls should be tender but not easily crumbled, and the bread should be soft to the touch and possess resiliency.

The three simple chemical tests of wheat for making good flour for making good bread are these: (1) the five proteins of the wheat, of which one is called gluten. Gluten is a gluey substance with power to stretch, to distend without breaking. It gives the flour its "strength." The total crude protein in the wheat, however, does not show baking strength; it is the quality of the gluten which shows that. Good gluten has coherence and tenacity when subject to reasonable stretching force. (2) Acidity of flour. The acidity is low in choice flours. Flour made from unsound wheat or wheat containing noticeable quantities of inseparable foreign material has a higher acid content. (3) Ash. The higher grades of flour usually have a low ash content. The more ash there is in wheat, the less flour there is. The chemical test of wheat is not sufficient in itself to show milling and baking qualities; actual milling and baking tests must be made. For this reason chemical laboratories giving the amount of protein or ash in wheat are not final indications of the value of the wheat. All large modern mills now have not only their chemical laboratories, but a small model bakery for final check on the baking values of their flours.

The Bloom and the Protein

The bloom is a desirable quality of bread; protein is a desirable quality in wheat. But there is no connection between the two. The bloom and the color of the bread come from the flour. Strong flours from hard spring wheats do not give the bloom and creamy whiteness. These flours tend to produce a marble whiteness much in demand in Canada and the United States, but not in demand in other lands. Bloom or

color in bread is produced by the softer wheats of Australia, the Pacific wheats of America, wheats of Chili, of England, and of Scotland, and the Danube wheats. To get both strength and color in the flours in Europe, blending of wheats is required. The strong wheat—wheat with strong gluten—makes flour the dough of which will absorb much water. When the dough is baked much of this water remains in it. The baker finds it to his advantage to sell as much water in this way as he can, as long as the quality of his bread remains uniformly good and satisfactory to his customers. He aims to produce 380 pounds of bread from 280 pounds of flour, after adding the water, salt, yeast, etc. He can do this if he has strong gluten, otherwise not. The European bread standards are more easily met than those of Canada and the United States, and therefore the European millers and bakers are not yet ready to pay high premiums for imported wheats of high protein content. The Europeans like the taste of European breads baked from flours representing the cheapest, reasonable mixtures and blends of imported and home grown wheats. To their billion bushels of home grown wheat they add a half billion bushels of imported wheats.

Millers and bakers of the United Kingdom and Europe still refer to Canadian wheat as "Manitoba" wheat. This term dates back some forty or fifty years to the time when the hard spring wheat—Fife wheat—from the virgin prairies of Manitoba began to arrive in Europe. The name is now applied to wheat from the three prairie provinces, whether Fife, Marquis, or certain other wheats. It is obviously important to the Canadian wheat growers that they back up this good reputation and buyer's confidence by maintaining as far as possible both a high and a uniform standard of quality for "Manitoba" wheat.

We may summarize this discussion thus far by saying that the commercial value of wheat depends almost

entirely upon its milling and baking qualities. Millers and bakers desire good quality and uniform quality. At this point a more detailed examination must be given to the miller's demand for wheat.

Milling

Mention has been made of the milling and baking quality of wheat. The miller is the first consumer of wheat, because his sole business is to buy and to process grain. In this discussion of wheat marketing, the bread eater, the final consumer, is considered the most important factor, because his influence, although slow to register itself on the wheat grower, is overruling in the end. The baker, the intermediary between flour miller and consumer, must in the end bow to the consumer's wishes. The miller as a buyer of wheat and a manufacturer of human food and animal feed, is a good experimenter. He is constantly varying the by-products of his mill to meet the market. This is the same as saying he is always attempting to forecast and estimate consumer demand, and to shape his milling policies accordingly. Thus in the Canadian crop year 1927-28 (an abnormal year because of wet harvests) flour prices were unusually low, but mill feeds from the same wheats were exceptionally high in both North America and Europe. But so much tough and damp wheat on the market greatly increased conversion costs for the millers. Europe prefers to import wheat rather than flour, for then the by-products, the so-called offal, are available for European buyers. Europe is also anxious to develop "home industries," including flour milling. In the crop year 1927-28, the Canadian miller ran at 52 per cent. of full capacity; the United States miller at 55 per cent. The amount of wheat required to produce a barrel of flour was the highest in five years. Fifty-two per cent. of Canada's flour was exported. In recent years there has been a tendency for these flour exports to decline. A market for some low grade flour is opening in China. Japan, however, prefers to buy wheat and do the milling in Japan. So much for the general situation.

Mill Products

The products of a flour mill, as a layman sees the industry, are three in number—flour, shorts, and bran. But the modern flour mill is producing and selling a much more complicated list of products than that. The five principal products are flour, shorts, bran, middlings and screenings. The screenings consist in part of wild oats and other grains and seeds fit for animal feed; in part of refuse material, such as the black weed seeds. The black weed seeds are not only unfit for animal consumption, but are positively harmful to livestock, and therefore should be used for fuel. The flour from a modern mill consists of various kinds and qualities, depending on the market the mill is producing for. A modern mill usually produces at least three types of flour, the patent, the bakers, and the clear. These grades are all subdivided into subgrades, such as first patent, first bakers, patent, first clear, second clear, and the various inferior grades, such as red dog, cut off, straight, and so on. For instance, if a straight No. 6 wheat is milled into flour, the low grade flour resulting would be a "straight" with a limited market, such as China. Here it would be consumed not as bread, but as dough balls.

As to the grades of wheat actually milled in Canada, the following testimony was given under oath before the Royal Grain Inquiry Commission in 1924.

N. J. Breen, Western General Manager, Lake of the Woods Milling Co. Total wheat milled in 1923, 14,000,000 bushels, made up as follows:

57 % of No. 1
25 % of No. 2
16 % of No. 3

1.3% of No. 4
.6% of No. 5

100 %

The 1.9% below No. 3 was made as follows:

Tough or rejected No. 1	56.6%
Tough or rejected No. 2	25.2%
Tough or rejected No. 3	16.3%
Tough or rejected No. 4	1.3%
Tough or rejected No. 5	.6%

Mr. J. W. Horn, Assistant General Manager, Western Canada Flour Mills Co. In 18 months 15,366,000 bushels of wheat used, made up as follows:

73.9%	of No. 1
14.7%	of No. 2
9.2%	of No. 3
2.2%	of No. 4
	of No. 5
	of No. 6
100 %	

Said Mr. Horn, "You could make a fairly decent looking flour out of 4, 5 and 6, but as a commercial proposition it would be suicide."

Mr. R. R. Dobell, Western Manager, Ogilvie Flour Mills Co. Grades of wheat ground in the year ending August 31, 1923:

38.26%	of No. 1
21.31%	of No. 2
39.89%	of No. 3
.54%	of No. 4

Mr. Dobell testified as to the value of screenings at the mill, saying that the 1923 crop of Manitoba wheat came to the mill badly rusted; the screenings were 60% pure wheat, that is, small shrivelled kernels or broken kernels; he was forbidden by law to mix these mill screenings with bran and shorts, although they add greatly to the feeding value of the feedstuffs; consequently these screenings are exported so mixed as feedstuffs.

Further testimony was taken concerning smutty wheat and condemned wheat. Two milling companies testified as follows: "We do not handle smutty wheat. Our agents have positive instructions not to allow smutty wheat to be taken into our elevators, unless ab-

solutely forced to do so, and then it must be handled special bin and shipped to lake terminals."

"On no account will our mill superintendents allow condemned wheat to be unloaded at our mills."

Grain Standards

Canada and the United States are unique among all countries of the world in having Federal standards for wheat. This gives them an advantage in selling abroad on the basis of grades rather than samples, as will be more fully explained under the general subject of marketing, below. In arriving at the grain standards in the two countries, those in charge of the work first divided the wheats into general classes, such as winter wheats, spring wheats, durum wheats, and so on, and in the second place they divided the various classes of wheats into grades. Grades take into consideration three things,—cleanness, quality, and condition. Some of the factors which enter into grades must, of course, refer to the milling quality of the grain; some, of course, to the baking quality; but some must refer to the keeping quality of the grain in storage or transportation. These are very important facts to keep in mind, for they help to explain certain commercial practices now in general use for disposing of some low grade grains which can be scientifically conditioned, and built up into higher grades. Grain that is too damp, for instance, cannot be stored, and it will take a lower grade accordingly. But by scientifically conditioning this grain, that is, by heating it, drying it and cooling it, it can be built up into a higher grade with the milling qualities indicated by its new grade. In such a case it is usually blended or mixed with wheat of this new grade. Wheat may be of a good quality, but in a poor condition, and therefore takes a low grade. Thus, in the year 1916 a wave of hot weather hit the wheat fields when wheat was in the milk, shrivelling up the kernels. This wheat was high in gluten and of good quality, but its shrivelled condition made it more difficult to mill and reduced the

yield of flour, and increased the amount of bran. This condition of this crop threw it into the lower grades. In the United States this same spring wheat crop fell below No. 5. Since the United States has no No. 6, a designation was manufactured for this wheat, namely, "D Feed Wheats." This wheat made good flour, but not very much flour, hence its price was comparatively low. To pay a good price for wheat, the miller needs to have confidence not only in the quality of the wheat but also in its condition, and in its cleanness. Cleanness means that the wheat is clean and free from those noxious weed seeds and grains which constitute "inseparable material," and which do injure either the appearance or the taste of the flour, or both.

Grain standards and grain grades have been established in Canada and in the United States primarily for commercial inspection purposes. They have another purpose which is equally important, that is, to aid in promoting the breeding, introduction and growing of the most suitable kinds of wheat.

To Summarize

Wheats which are entitled to a high grade and a top price are those classes of wheat which have cleanness, quality and condition. They are suitable for milling; they are suitable for baking; and they have keeping quality in storage or transportation. In dividing wheat into the numerical grades, No. 1, No. 2, No. 3, and so on, certain definite limitations and requirements must be met, of which these are the principal ones: test weight per bushel, moisture content, total percentage of damaged kernels, heat damaged kernels, total percentage of inseparable foreign material, total amount of wheat of other classes, wheats of special classes, foreign odors, temperature, presence of live insects injurious to stored grain, smut, and distinctly low quality.

What the Market Wants

The market which absorbs most of the Canadian wheat is, as has been stated, the foreign market. The quantity and quality of Canadian wheat which this

market wants is best indicated by the amount and grade of Canadian wheat which this market actually buys from year to year. These consumptive demands of the foreign market can be seen from the following statistical statements:

Of the 1927 crop of 440,000,000 bushels, there was exported 288,567,390 bushels as wheat, and 9,865.754 barrels of flour, equivalent to 44,395,898 bushels of wheat, or a grand total of 332,963,288 bushels of wheat, or about 75% of the crop.

The thirteen largest buyers of this wheat were the following:

Chief Foreign Buyers of Canadian Wheat—
1927-28 Crop

1.	United Kingdom	201,732,699 bu.
2.	Netherlands	18,514,583 "
3.	Germany	12,503,521 "
4.	Belgium	12,223,681 "
5.	Japan	10,435,913 "
6.	United States	8,432,330 "
7.	Italy	7,933,140 "
8.	Greece	3,837,173 "
9.	France	3,351,270 "
10.	Sweden	2,340,045 "
11.	China	1,262,687 "
12.	Norway	1,178,627 "
13.	Irish Free State	1,086,827 "

These thirteen countries took 284,882,496 bushels, of which amount the United Kingdom took 71 per cent. To merchandise the remaining 3,684,894 bushels, it was necessary to find outlets in the following 21 countries: South Africa, Denmark, Korea, Mexico, Nicaragua, Portugal, Russia, Spain, Cuba, Columbia, Chili, Peru, Egypt, Finland, French West Indies, Hayti, Algeria and Tunis, Morocco, Mozambique, Azores, Turkey.

Flour during the crop year of 1927-28 was sold in all the 34 countries listed above, with the exception of

Turkey, and also in the 17 additional places: Aden, Austria, Bolivia, Brazil, Czechoslovakia, Esthonia, French Guiana, Dutch Guiana, Dutch West Indies, Panama, Palestine, Poland, Syria, Venezuela, British West Africa, British Guiana, British West Indies. In other words wheat was sold in 34 countries; flour in 51 countries. With the greatly increased production of Canadian wheat since 1922 has come this great expansion of sales into all the highways and byways of the world's markets.

No two years are alike in the grain trade. Men with years of experience in producing or merchandising grain say, "There are no normal years in wheat production and marketing." Thus, for instance, the year 1920 was as near a normal year as any. The crop was 263,000,000 bushels. But the buyers of this wheat were not the same as the buyers of the 1927 crop, illustrating the fact that big shifts in demand, big shifts in buying habits occur in the short space of seven years:

Chief Buyers of the 1920 Crop

1.	United States	49,218,551 bu.
2.	United Kingdom	34,754,356 "
3.	Italy	20,109,240 "
4.	Belgium	10,659,334 "
	Thirteen other countries	21,437,304 "
	Total seventeen countries	136,173,785 bu.

During this same year flour was shipped to 18 countries, the United Kingdom taking 53 per cent. of it. Of the 1927 flour export, the United Kingdom took but 32 per cent. Who will be the chief buyers of Canadian wheat and flour seven years hence?

It is conservative prophecy that they will not be the same as they were in the year 1927 or 1920. Shifts in demand and shifts in production occur every year, each reacting on the other as cause and effect.

Canada's Wheat in Liverpool

Liverpool is one of the great wheat price barometers of the world,—at times the best in the world. The grain exchange there is a wide market. The George Broomhall market reporting service is quite favorably received throughout the world by reason of the nature, the speed, the amount, and the reliability of its price information. Liverpool should not be looked on as making world wheat prices, but merely as registering prices. Its function may be compared to that of the barometer, not to make weather, but to report it. It is interesting to compare Canadian wheat prices with other wheat prices on the Liverpool market and on other British markets. Such a comparison shows clearly that the top grades of Canadian wheat, the No. 1, the No. 2, and the No. 3 stand high in favor on the British market, but that lower grades do not bring the prices which competing wheats do.

Selecting days at random representing crops over a period of years, we have the following comparative wheat prices on the British markets:

Wheat prices, Jan. 5, 1928. In cents per bu.

London,	
Argentine wheats, Rosafe	149
Barusso	150
Liverpool,	
Canada, No. 3 Nor.	151
Manchester,	
Canada, No. 2 Nor.	168
No. 3 Nor.	151
Bristol,	
Canada, No. 6	121
Glasgow,	
Australia	156

Wheat prices, Oct. 1, 1926.

Liverpool parcels.	
Canada, No. 1 Nor.	166½
U. S. No. 2 Hard Winter	167
No. 2 Garlicky Red Winter	154½

Liverpool, April 13, 1926. In cents per bu.

Australian	184½
U. S. Pacific	178½
Canada No. 1 Nor.	186½
Tough No. 1 Nor.	179½
No. 2 Nor.	180
No. 4	169
Manitoba Kiln Dried	127
Chili, choice	177

Liverpool, Nov. 8, 1923.

Australia	144
Canada, No. 1 Nor., Old	149
No. 1 Nor., New	142
U. S. No. 2 Red Winter	138
Argentine, Rosafe	138
India, Choice White Karachi	134
Persia	127

Liverpool, July 1, 1922.

Australia	170
U. S. Red Pacific	167
Canada No. 1 Nor.	176
No. 2 Nor.	164
Argentine. Rosafe	167
Barii	160

London cargoes, July 7, 1913:

Australia	115 to 117
Canada, No. 1 Nor.	116
No. 2 Nor.	112
No. 3 Nor.	108 to 110
No. 4	104
Argentine, Barusso	110
India, No. 2 Club Calcutta	110
Choice White Karachi	110

The above statistics show a few of the price ranges in any one day, and the price fluctuations from year to year. These price changes and spreads reflect the crop production and wheat demand conditions of the world.

III—Production.

What the Farmer Produces

The fundamental problem in wheat marketing is the farmer's problem,—How produce the quantity and quality of wheat wanted by the consumer? In this discussion thus far considerable attention has been paid to the needs of the consumers—the foreign buyers of Canadian wheat. We have seen what the consumers want. The next question is, what is the farmer of Canada producing to meet this want? Is he adjusting this production to consumer demand?

There are many ways to test this matter. One of the simplest ways, obviously, is to go to the approximate center of the great Canadian wheat belt, and there select a sample of wheat which is as typical as can be found; examine it carefully, and note the cleanness, quality, and condition of this sample. Such a test has been made and the results are as stated in the following paragraph.

A Saskatchewan Wheat Sample

Typical Canadian wheat, as far as there is such a thing, comes from the province of Saskatchewan, and from the more southerly part of this province, for this is nearest the center of the spring wheat area. The author of this bulletin, with the advice and co-operation of the Grain Inspection Department of the Canadian Government, selected a car of wheat for inspection and analysis. The car arrived in Winnipeg, December 31, 1928, from Herbert, Sask., a shipping station on the main line of the Canadian Pacific Railway, west of Moose Jaw, east of Swift Current. Cars of grain heavy in dockage, or with wheat running low in test weights per bushel, or with marked defects were all ruled out as being "bad examples." The sample selected was better rather than worse than the average, so as to give the benefit of the doubt to the grower. Therefore, a car of No. 3 Northern was selected, weighing 63 pounds to the bushel, and with a two per cent. dockage. This is a high test weight, and a low

dockage. It is important to note in the light of what follows, that a car with 2 per cent. dockage was chosen rather than 4 or 5 per cent. or higher. In other words, this was unusually clean wheat.

The Inspection Department at Winnipeg was asked to make the inspection and also a detailed and complete analysis of a small sample. If the farmer himself will take one handful of his own wheat, he will find that he has about 850 grains of wheat in his hand, weighing one ounce, and containing in addition to the wheat certain foreign materials easy to clean out and known as dockage, and certain other foreign materials known as inseparable material. In this case under discussion, a one ounce sample was drawn from the tin sample box. The analysis made by one of the Chief Deputy Inspectors showed the following materials in the one ounce sample of the Saskatchewan wheat:

A One-Ounce Type Sample of Wheat from Saskatchewan, ex Herbert, No. 3 Nor., 2% Dockage, 63 lbs. per bu.

734 hard vitreous wheat kernels,
91 green, immature and frosted kernels,
20 starchy kernels,
2 kernels of white wheat variety.

847 total wheat kernels.

Dockage.
3 pieces of straw from head,
2 unthrashed kernels,
5 wild oats,
48 pieces of broken wheat kernels,
1 kernel of barley,
229 small weed seeds, including wild buckwheat, cockle, hares ear, ball mustard, French weed, blue burr, and pig weed.

The first thing to notice in the above unusually clean wheat is that there is one noxious weed seed for every three kernels of sound hard wheat. This same ratio holds true whether it is an ounce of wheat, or a pound, or a wagon load, or a car load, or a cargo. Obviously if the consumer is buying this "virgin wheat,"

just as it "left the farm," he is getting a lot of material which is unfit for either human or animal consumption. Such material not only has no value in itself but it pulls down the value of the grain with which it is so intimately intermingled.

As stated before, 2 per cent. dockage is below the average for the spring wheats of Canada. However, if a farmer with a wagon load of wheat of 2 per cent. dockage will take his pencil and do a little sum in arithmetic, he will determine the following fact about the weed seeds in his sixty bushel load of wheat:

In one ounce of wheat	229 weed seed
In one lb. of wheat	3,664 weed seed
In one bushel of wheat	219,840 weed seed
In one wagon load of wheat ..	13,190,400 weed seed

The wheat that leaves the farm needs considerable treatment of a technical and scientific kind before its true commercial value can be realized. In the wheat sample under discussion the moisture test was not made, since the wheat was, in the inspector's judgment, in a good condition for storage or transportation. The fact must be borne in mind, however, that much wheat leaving the farm has too much moisture for either storage or ocean transportation. Such wheat needs and receives at the terminals the proper conditioning. This was true of the 1927 crop.

In the one ounce sample above there was one kernel of barley. Barley is inseparable material, and the flour mill buying this wheat will grind the barley with the wheat. One grain per ounce means 960 grains per bushel, enough to have some effect on the color and taste of the flour. There is also in this sample other inseparable material, namely, 22 grains of wheat which is not hard spring wheat. This means that 3 per cent. of this wheat is not hard spring wheat, although the buyer is after only the hard variety. The 11 per cent. of this wheat which is green, immature, and frosted, cannot be entirely separated by the cleaning machine of the terminal elevators or flour mills.

As this typical sample clearly shows, the farmer in taking his wheat from the farm to the market is taking not only the wheat which the market wants, but a large percentage of material which the buyer does not want and cannot use. Once this mixture of good and bad materials has been produced on the farm and delivered at local shipping stations, it is generally not practicable to make a separation until the terminal is reached, where mass handling saves both time and expense.

If "virgin wheat" as it leaves the farm is to have all the virtues which the farmer thinks it has, and if it is to have the cleanness, quality and condition which the buyer wants, there must be some marked improvements and changes in the production of the wheat itself.

If wheat from other parts of the prairie provinces is analyzed, it will show certain variations from the type sample from Saskatchewan; in some sections more rust will be found; in other places more rye, including ergoty rye (a poison); in yet other sections more barley. If the harvest has been a wet one, then there will be more bleached kernels of wheat; if the frost has come too early, there will be more green, immature kernels. And if the wheat land is old land, there will be likely Russian thistle, sow thistle, and many varieties of black weed seeds. The problem of producing clean wheat is one of the most serious marketing problems now confronting the Canadian farmer.

Seed Drill Survey

A seed drill survey was conducted in the year 1928 in Manitoba by the Seed Branch of the Dominion Department of Agriculture. Two districts, known as the Carberry and the Carman, were studied. Samples of seed wheat were selected from 146 farms so that a true picture could be secured of what the farmers were planting and producing. Seed wheat is popularly supposed to be "clean" wheat, for it was found that 89 per cent. of the farmers have cleaning machinery. Yet

the seed wheat in the two districts contained foreign seeds as follows:

	Carberry	Carman
Noxious weed seeds, per lb.	45	19
Other weed seeds " "	126	116
Other cultivated seeds " "	67	45
Total per lb.	238	180
Total seeds per Acre	21,420	16,200

Owing to the great fecundity and tenacity of these weed seeds, a good crop of weeds is produced from the seeds drilled in with the wheat. Some definitions are needed to make clear the kinds of seeds included in the three classes just named. In this Manitoba case, the three classes were as follows:

Noxious Weeds—

Wild mustard
Sow thistle
Couch grass
Canadian thistle
Cow cockle
Ball mustard
Stick seed
Hare's ear mustard
Wild oats
Stinkweed
Rag weed

Other Weed Seeds—

Lamb's quarter
Wild buckwheat
American dragonhead
Green foxtail

Other Cultivated Seeds—

Oats
Barley
Vetch
Rye
Flax

The grades of wheat produced in the two Manitoba districts were as follows:

	Carberry Percent	Carman Percent
No. 1	4.0	11.5
No. 2	1.3	4.3
No. 3	17.1	17.1
Rejected	77.6	67.1
	100.	100.

Wheat Varieties

Weed varieties, as above indicated, are being seeded and harvested in ever increasing amounts. An increasing number of wheat varieties are also being seeded and harvested, making more difficult each year the marketing and grading of Canadian grain. Instead of moving towards more simplification, more standardization, as so many lines of successful big businesses are doing, the Canadian farmers are producing more and more varieties of wheat. The 1927 crop, for instance, represented the following five classes and thirty-six varieties:

Canada's 1927 Wheat Crop Classes and Varieties

Class—Red Spring Wheat.

Varieties—

- Marquis
- Kitchener
- Ruby
- Early Triumph
- Red Bobs
- Early Red Fife
- Garnet
- Stanley
- Purcis
- Red Club
- Ceres
- Red Fife
- Renfrew
- Prelude
- Reward
- Bluestem
- Huron
- Preston
- Kota
- Brownhead
- Vermilion

Class—White Spring Wheat.

Varieties—

- Dicklow
- Sonora
- White Club
- Axminster
- Quality
- Early Bart
- Hard Federation

Class—Hard Winter Wheat.

Variety—Alberta Red Winter

Class—Soft Winter Wheat.

Variety—Ontario White Winter

Class—Durum Wheat.

Varieties—

- Pelissa
- Mindum
- Arnautka
- Golden Ball (or South African)
- Kubanka
- Red

There are certain mixtures which affect the grade, the two principal ones being: (1) Wheat with any other grain; (2) Wheats themselves — such as Red Spring and White Spring; Red Spring and Amber Durum; Red Spring and Red Durum; Red Spring and Kota. The effect of such mixtures on the grade is to lower the grade. Mills cannot separate these classes and varieties of wheats. If they come from the farm already mixed, grown mixed from mixed seed, then they will remain inseparably mixed till they are ground into flour or feed. This type of mixing is sometimes called blind mixing, for it is done blindly and with no purpose in view; some harm and no benefit results from it.

Canada's 2623 Grades

The mixing of wheat with other classes or varieties of wheat and with certain weed seeds has the effect, as already stated, of changing and lowering the grade. As the Canadian wheat belt is pushed northward into the bush country, and on northward some 500 or 600 miles north of the 49th parallel, new conditions arise and new weather hazards for the wheat crop. These new conditions and new hazards cause variations in the quality, the conditions, or the cleanness of the wheat, and so affect its grade. Canada has now come to have by far the greatest number of wheat grades of any country in the world, the number being over twenty times those in the United States. To illustrate:

Wheat Pool Grades

The Central Selling Agency of the Canadian Wheat Pools found it necessary, in paying for the wheat deliveries of the 1927 crop, to keep accounts with and make payments for 216 grades of wheat. The highest payment (gross payment) was made for No. 1 Northern $1.42\frac{1}{4}$ per bushel. The lowest gross payment was for a mixed low condition wheat graded as Damp Smutty Red and White Spring Wheat and Wild Oats, $0.58\frac{1}{4}$ per bushel. Here the top wheat brought a price of 145 per cent. higher than the bottom wheat.

Unfortunately for the farmer, the wet weather at harvest time in 1927 injured the wheat so that a very small per cent. was able to make the higher grades. Of the fancy grade, No. 1 Hard, there was one car produced in all Canada. Of No. 1 Northern, there was less than 1 per cent. of the crop; No. 2, 7 per cent.; No. 3, 22 per cent.; No. 4, 12 per cent.; No. 6, 3 per cent. Forty-three per cent. of the crop was "no grade" (tough and damp.) Out of the 301,000 cars of wheat of the 1927 crop inspected in the Western Division of Canada (Port Arthur and west), there was one car of No. 1 Kota, six cars of No. 2 Kota, and fourteen cars of No. 3 Kota. It is worth while to keep in mind the fact that the Grain Act of Canada requires the Public Terminal Elevators handling this grain (in case it goes into a public elevator) to keep the grades separate as well as the varieties separate. Bins in public terminal elevators run from 30,000 to 50,000 bushels capacity. It is not very economical to set aside a 30,000 bushel bin for one car of Kota wheat, or for six cars of No. 2 Kota.

While the Pool was handling 216 grades of wheat of the 1927 crop, the terminal elevators were receiving many more grades than that; in fact, more than twice that many. The public elevators at Fort William and Port Arthur received 85,000,000 bushels of wheat, of 63 different grades. The private elevators at the same points received 197,000,000 bushels of wheat of 481 different grades. But here is the most interesting and most important fact from both the production and marketing standpoints—451 of the grades were represented by small amounts of wheat, that is, less than 50,000 bushel lots. In other words, there were thirty grades representing lots of wheat varying from 50,000 bushels upward to 48,000,000 bushels; the 451 grades represented four hundred and fifty-one lots of wheat varying in size from 49,000 bushels down to one 5 bushel lot of Condemned No. 2 Mixed Heated, one 307 bushel lot of No Grade Tough Rejected White Spring

and Amber Durum Sprouted, and one 2,000 bushel lot of No Grade Tough Rejected No. 4 Sprouted Rejected Mixed Heated and Heating.

These facts give us a rather dark picture of Canadian Wheat as it moves from the fields to the terminal markets. Too many grades. Too many qualities and conditions. But the situation is even worse than here presented. If the claim be made that 1927 was not a "normal" year, we may turn to 1926. For the 1926 crop there were 541 grades received by the private terminal elevators at Fort William and Port Arthur. The fact must be frankly faced that Canada is now producing by actual count 2,623 grades of wheat. Since the millers want only eight or ten grades and the exporters only six, we will see at once the serious nature of this wheat marketing problem. Fortunately for the farmer, by cleaning and conditioning, by a careful and scientific mixing which has due regard for the three factors of cleanness, quality and condition, the handlers of grain in large volume at terminal markets are able to eliminate a very large number of grades. The market for these 451 grades of small lots of grain in 1927 was, of course, the private elevators. They purchased in all 481 grades. By conditioning and scientific mixing, they eliminated 277 of these grades, leaving on their hands 204 grades to sell. Since the millers and exporters are not buying these nondescript grades, and since the farmers keep on producing them in ever increasing volume, the private elevators have grown up by a process of natural economic evolution to become the buyers of this grain. Without such buyers, it is difficult to see where and how the farmers could dispose of their grain at all.

Private Elevator Grades

The farmer's Pool, as stated above, received from the farmer 216 grades of wheat of the 1927 crop. It is a physical impossibility to find buyers at remunerative prices for this number of grades of wheat. The Pool actually found buyers overseas for twenty-one grades. This left on hand 195 grades to be sold to domestic

buyers, or to be conditioned and built up into fewer and better grades. To sell 195 grades of wheat to mills that grind only six grades is not practicable. The Pool was accordingly forced to follow the established commercial practice of conditioning, mixing and otherwise treating this wheat.

Large Number of Grades

How is it possible, the reader may ask, for Canada to produce 2,623 grades of wheat? This number of grades is not produced in any one year. But over a period of two or three years, these grades are actually produced, and enter the channels of commerce. An explanation may be given at this point showing why there are so many grades. Thus far in this bulletin we have referred to the numerical grades, Nos. 1, 2, 3, 4, 5 and 6, and to the various classes of wheats. The Canada Grain Act specifies the requirements for certain grades of wheat, including the No. 1 Hard, the No. 1 Northern, the No. 2 Northern, and the No. 3 Northern. This Act also provides the necessary flexibility of grades to meet changed conditions from year to year by a system of "Commercial Grades." The administrative machinery for formulating and promulgating these commercial grades is carefully and minutely described in the Grain Act. It is in these commercial grades, formulated to fit actual weather and crop conditions, that we have the terrific multiplication of grades. To illustrate. Start with No. 2 Northern. It may be damp or wet or heated or mixed, and so on, through a long list of actual possibilities. Since these factors affect either the cleanness, the quality or the condition, they affect the grade. In this way we get, for example: Tough No. 2 Nor., Rejected No. 2 Nor., Tough Rejected No. 2 Nor., Damp No. 2 Nor., Dried No. 2 Nor., and so on. Other factors, any one of which change the grade, are: smutty; sprouted; mixed; mixed with rotten kernels; mixed with gravel; fireburnt. In this manner we find there are 61 grades of No. 2 Northern. There are obviously 366 grades of the Nos. 1, 2, 3, 4, 5, 6, because six times 61 equals 366. There are

366 grades of Kota; 366 grades of Red Durum; 366 grades of Amber Durum, of winter wheat, of mixed wheat. There are 61 grades of feed wheat.

In other words, there are 2,623 possible grades of Canadian wheat; these grades fairly accurately describing the actual cleanness, quality or condition of the wheat, under both favorable and unfavorable climatic conditions. Temperature, precipitation, wind and sunshine are the major natural factors causing variation in grades. The farmer's soil treatment, crop rotation, seed selection and treatment are major human factors in the problem. It occasionally happens that in one field, wheat of different grades is produced, because of spots of low ground, or of other natural conditions beyond the control of the farmer.

Thus far in our discussion we have considered the problems of wheat consumption, and of wheat production. We are now ready to turn our attention to the next problem, namely, the marketing of the wheat.

IV—Marketing.

Marketing wheat means getting wheat from the producer to the consumer. The various go-between services along the way from producer to consumer are sometimes referred to as the "middleman service." In all times and places in the world's history the grain trade has been a matter of grave public concern, and hence subject to much public regulation. In practically all countries in Europe and western Asia, however, where such regulation was furthest developed, this regulation was for the supposed protection of the consumer, not the producer. In new agrarian lands, such as Canada, laws on the grain trade are frankly aimed primarily to help the producer. In the end, however, there should be no irreconcilable conflict of interest between producer and consumer. Experience has proved that the more freedom the grain trade has had the better it has been for both the producer and consumer. At this point in our discussion we are ready to consider two important practices in the marketing of wheat; one a matter of direct governmental regulation; the other a matter of the free economic evolution of the market itself. These two important practices are: Grain Inspection and Grading; Grain Mixing. There is a certain background to these two practices which must be understood and be held in mind for a correct understanding of these practices themselves. This background, we will now briefly survey.

The Wagon-Car-Cargo Movement

There is a saying that time is money. At any rate speed is one of the first necessities in moving the Canadian wheat crop from the fields to the Head of the Lakes. And speed is one of the prime necessities in getting Canada's quota of wheat exports afloat to foreign markets before the big stream of Argentine and Australian wheats are also afloat. For Europe looks on a movement of much over 60,000,000 or 65,000,000 bushels of wheat on passage as bearish. The orderly

movement of wheat to Europe follows the world's harvest in the northern hemisphere and then the southern hemisphere, as the following table illustrates:

Movement of Wheat to the Seaboard by the Four Chief Exporting Countries. Showing the total bushels moved, by 4 month periods, and the per cent of the period represented by each country

Five Year Average—Crops of 1918-1922

	July-October		November-February		March-June	
United States	118,032,000 bu.	54%	79,289,000 bu.	36%	80,544,000 bu.	36%
Canada	43,505,000 bu.	20%	80,512,000 bu.	36%	40,987,000 bu.	19%
Argentina	37,287,000 bu.	17%	34,399,000 bu.	16%	63,935,000 bu.	29%
Australia	20,600,000 bu.	9%	27,644,000 bu.	12%	36,218,000 bu.	16%
Total	219,424,000 bu.	100%	221,794,000 bu	100%	221,684,000 bu.	100%

Speed in Handling

Such a movement of wheat to the world's markets means that within three months of harvest, one half of the United States wheat crop must and does reach terminal markets; and that one half the Canadian crop within ninety days of the Canadian harvest should reach the terminals. Wheat at terminals is in a strong position, because it can be moved quickly to any market. A good example of speed in moving wheat occurred at, or rather just before the close of navigation at Fort William and Port Arthur in November, 1928. Here 72 vessels loaded and cleared in 72 hours. They were thus able to escape the higher insurance rates effective December 1.

Speed on the farm is being secured through the use of larger and larger wagons and lately of trucks. A farm ten miles from the station, hauling wheat by truck, is the same distance in hours from the station as the wagon farm two miles out. At one Alberta station, in one day, in 1928, there was delivered 100,000 bushels of wheat. Wheat on farms or at country stations is, generally speaking, in a "weak" market position, because of the impossibility of getting it to a buyer quickly. Wheat for internal mills is, of course, an exception.

The commercial handling of wheat requires speed. If 300,000 cars of wheat are to be inspected at Winnipeg, and this wheat moved into favorable position at the Lake Head before navigation closes there must be

speed. This physical movement of the grain has three distinct phases: (1) From farm to station by wagon load; (2) From station to lake terminal by car load; (3) From domestic seaport to foreign seaport by vessel.

The wagon load of wheat is about 60 bushels.

The car load of wheat is about 1,500 bushels.

The load in one hold of the vessel is 50,000 bushels.

Thus the wheat moves and must move in constantly larger units. Keeping wheat from individual farms in separate lots is commercially impossible, even if it were desirable. Since "virgin wheat," as has been stated, is not fit for milling or baking, there ceases to be any reason for preserving the identity of the wheat of any one farmer.

A full cargo of wheat runs from 300,000 to 400,000 bushels. But the unit of the load is the single hold of the vessel. In this hold one grade of wheat is carried. A cargo can, therefore, consist of six or eight grades, one grade for each hold if necessary. Building up these larger units, such as car load, vessel load, is done by a process of mixing together smaller units of the same grade.

Canadian Grade Certificate

There is one important aspect of the foreign grain trade of Canada which needs to be mentioned at this point. That is the use of Canadian grades on the European markets. If a cargo of wheat has the Canadian inspection and grade, the certificate of this grade is known as a Certificate Final on the British or European market. For simplicity, speed and convenience, this method of selling by Certificate Final is superior to any other known system. To bring some order into the world's grain trade, and to provide for settling trade disputes in a manner where justice would be certain, speedy and cheap (most law courts furnish justice which is uncertain, slow and expensive) the leading grain dealers of the world formed an organization in London known as the London Corn Trade Association.

Now most of the world's international grain business is done on the basis of the contracts formulated and printed by this association. A separate contract is made for each country and each grain. So there are now over sixty of these contracts in force.

The Canadian contract governing all international dealings in Canadian grain states that in case a dispute arises over the grade of the grain at destination the Canadian certificate of the grade as the grain was inspected out, shall be final. In other words, if there is any serious defect in the grain it is due to something which happened to the grain after it left Canada, and the final adjustment must be made on this basis.

For a great many years now the Certificate Final has been used for Canadian grain, and with great satisfaction to both buyer and seller. The United States and Canada are the only two countries in the world thus far which have succeeded in standardizing and grading their grain to the extent that they can sell it by telegraph or telephone, or cable or wireless, on the basis of grade certificate alone. Since this makes marketing easier, it also makes it cheaper, and therefore it is of benefit to the producer as well as the consumers. The ideal system is to keep the standards definite and uniform, just as the term "one foot rule" calls up the picture of a twelve inch rule, as the words "yard stick" call up the picture of a 36 inch stick with exactly the same meaning to all persons. Wheat standards cannot reach that final degree of perfection, but they should approach and approximate it. This discussion now leads us up to the important subject of mixing.

Mixing

Mixing, as the term is used here, means the mixing and treatment of grains of different grades in a private elevator for the purpose of securing better grades. It has been made clear in the preceding pages that the grade of the grain depends on three factors—cleanness, quality and condition. A mixing house has

at least four general functions—to buy and sell grain in large volume, to clean grain, to condition grain, and to mix grain. Its income is from four sources, not one source. Since mixing is a controversial subject in some parts of the country, it will be examined with care in the following paragraphs.

Low Grade Grains

In the first place, it should be remembered that there is no way to get a good price for a poor product. Even an expert mixing house cannot get more than the grain is worth. All it can hope to do is to put the wheat into the best possible condition, and to put it so far as scientifically possible into that quality class, or cleanness class where the most can be realized for it.

Mixing may be best understood by noting examples of it. Turning to the 1927 wheat crop, and examining the statistics for the grain inspected into and out of the private elevators at Fort William and Port Arthur, we see what mixing means. As stated before, 481 grades of wheat were inspected in; 204 grades were inspected out; cleaning, conditioning and mixing, therefore, got rid of 277 grades. Of the No. 1 Northern there was received 2,300,000 bushels; shipped, 3,500,000. Of the No. 2 Northern, 16,300,000 bushels was received; 24,800,000 bushels shipped. Of the No. 3 Northern, 48,052,000 bushels received; 79,216,000 bushels shipped. Of the No. 4, receipts were 24,848,000 bushels; shipments were 33,498,000 bushels. In other words, lower grades were built up to meet the requirements of the four top grades. Turn now to the low grades which were thus conditioned.

No Grade Tough 3 Northern; receipts were 36,551,000 bushels; shipments, 14,121,000 bushels.

No Grade Tough No. 4; receipts 6,439,000 bushels; shipments 6,243,000.

In a similar way there was a successful treatment of the No Grade Tough Nos. 5 and 6.

The following five lots of damp wheat were all eliminated by being dried and put into higher grades.

	Bushels
No Grade Damp 1 Northern	2,500
No Grade Damp 2 Northern . . .	185,885
No Grade Damp 3 Northern . .	.2,280,585
No Grade Damp No. 4	.1,712,653
No Grade Damp No. 5	.. 450,162

It will not be necessary to run through the whole list and account for every lot of low grade wheat which was eliminated by cleaning, conditioning, or mixing. The following are typical grades among the 277 grades entirely eliminated by the private elevators:

No Grade Damp Feed
Rejected No. 1 Northern
No Grade Tough Rejected 2 Northern
No Grade Damp Rejected 2 and 3 Northern, also No. 4 and 5
No Grade Damp Smutty 2 and 3 Northern, and the same for 4, 5 and 6
No Grade Tough 2 Northern Heating
Same for other grades Heating
No Grade Tough Rejected 3 Northern Sprouted Rejected Mixed Heated
No Grade Tough Rejected 1 Northern Mixed, Heated and Heating
Rejected 3 Northern Mixed Rotten Kernels
No Grade Tough Smutty Rejected 3 Northern

It is obvious from these typical grades that the low grades are due to a few specific causes, most of which can be removed by the mixing house. These causes are: too much moisture; too much heat; other conditions such as smut, or rotten kernels, or sprouted wheat. The private elevators are actually salvaging a large amount of grain that would otherwise find no market. The Inspection Department testified that it was not lax in inspecting out this grain from the private elevators. On the contrary, it testified that it had a double standard of inspection, one for the private elevators where mixing is done, and one for the public elevators where no mixing is done, and the standard for the private elevators was a little higher than that for the public elevators. This attitude is not taken arbitrarily towards the private elevator, but

is taken because of the construction put upon an ambiguous clause in the Canada Grain Act.

Origin of Mixing

The origin and history of mixing throw some additional light on the practice. The terminal houses, some twenty years ago, found themselves receiving many grades which were out of condition, due to rust, smut, rain, snow, moisture, heat, and other natural causes. Small elevators with cleaning machinery and equipment for conditioning the grain were built, these houses being called Hospital Elevators. Later large private elevators were built, equipped to mix and condition the grain. Conditioning and mixing became a well established commercial custom. The farmers when they got into the grain business in a large way took up the practice.

The relative importance of private and public elevators at the Lake Head is shown by the following statistics of the number of each kind of elevators and the capacity:

Storage Capacity, Fort William-Port Arthur, Sept. 15, 1928

	Fort William Bushels	Port Arthur Bushels
Public Terminal Elevators	5,750,000	17,175,000
Private Terminal Elevators	31,075,000	31,775,000

The private elevators have 62,850,000 bushels storage capacity, as against 22,925,000 for the public elevators. These private houses are also "regular," that is, their warehouse receipts are tenderable on future contracts.

Farmers own private elevator capacity at the Head of the Lakes (included in above) as follows:

	Bushels
Manitoba Co-operative Wheat Producers No. 2	575,000
Saskatchewan Pool Terminals, No. 5	2,100,000
Saskatchewan Pool Terminals, No. 7	6,900,000
Manitoba Co-operative Wheat Producers, No. 1	1,300,000
Saskatchewan Pool Terminals, No. 8	2,500,000
United Grain Growers, "A"	5,500,000

In fact, the farmers are now the largest single operators of mixing houses at the terminal market. The natural evolution of the market has put them into this practice. They faced conditions which were successfully met by means of the private terminal elevator operating as a mixing house.

There is one other issue involved in mixing to which attention must now be directed. Does mixing degrade the quality of the wheat? Does it impair the value of Canadian wheat in Europe? This question is in reality a challenge of the integrity of the official grades, since the wheat leaves the mixing house under a grade put there after the out-inspection by the Inspection Department of the Canadian Government. The key to the situation is, as just said, the integrity of the grade, and the ability and integrity of the men doing the grading. We will now look into this matter.

Inspection and Grading

The Canadian Certificate Final is now, and long has been, a definite standard of grade of wheat on the markets of the United Kingdom and Europe and the world. As a yardstick of grain standardization the foreign buyers have come to look on it as 36 inches long, so far as it is possible to give such definiteness to wheat standards. If the integrity of Canadian wheat grades is being impaired by mixing of grain in private elevator, then the foreign buyers would be the first to discover it and make a protest. It is worth noting here that Dean W. J. Rutherford and Chief Inspector George Serls made first hand investigations in the United Kingdom, looking into the question of complaints, if any, against the integrity of the Canadian grades. It is more than likely if any miller in Glasgow, or Liverpool, or Manchester, or Bristol, or London, or elsewhere, had had any trouble with Canadian grades he would have made his grievance known, for every opportunity was given. Yet no criticism was heard of the Canadian grades, whether on wheat out of public or private terminals. The conclusion is inevit-

Integrity of Grades

able, therefore, that the integrity of Canadian wheat grades has been strictly preserved, whether this wheat came out of public or private elevators. This means that the buyer gets what he wants, and pays for what he gets.

Technique of Inspection and Grading

The mechanical processes of sampling the grain and of inspecting and grading the sample has been investigated so many times that any further description of those processes here would be out of place. Attention needs to be called only to certain aspects of the inspection process. Speed is an overruling necessity. It is secured by having the necessary force of grain samplers in the yards, taking samples from cars, day and night, seven days in the week, when the grain movement is large. Samples are taken for inspection to the government grain laboratories which are equipped first of all with the north light, considered best for scientific inspection and grade determination. The most modern equipment in existence is used for getting the test weight per bushel, and the moisture test. The Grain Act imposes certain requirements concerning the cleanness, quality and condition of the grain which the inspectors must determine by the use of their judgment based on past experience. These grain grade requirements left to human judgment are in general these: No. 1 Hard shall be sound, well cleaned. No. 1 Manitoba Northern shall be well matured, well cleaned, practically free from damaged kernels and foreign grains. No. 2 Manitoba Northern shall be reasonably sound, reasonably clean. No. 3 Manitoba Northern shall be reasonably sound, reasonably clean, of fair milling quality. These grades, as the reader will of course recall, have their own specific test weight per bushel, their own specific requirements as to per cent. of the red spring wheat kernels which they must contain, and so on. The point at issue here is merely the fact that in any grading system some factors must be left to the judgment of the inspectors.

In the United States grades there are fewer things left to the inspectors' judgment; more things are specified in the published standards. For instance, the per cent of inseparable foreign material and the per cent of moisture. The Canadian system, however, seems to fit Canadian conditions better than a more specific system would.

Inspection and Grading Personnel

Whatever the system of inspection and grading, its ultimate success or failure depends on the men who are working it. To a disinterested outsider visiting Canada and studying her wheat marketing system in all its ramifications, one outstanding impression is brought home: the most vital link in the long chain of Canadian wheat marketing is the Inspection and Grading of the wheat. The economic importance of this grading business can be stated only in terms of hundreds of millions of dollars. This staff of men, charged by the government with the professional and scientific duties of making the inspection and doing the grading, now handle a grain crop of over 500,000,000 bushels, with a total value in excess of $500,000,000. This job may be compared with another big business in Canada, namely, railroad transportation. The Canadian National in the year 1928 had a total freight and passenger business of $300,000,000. The Canadian Pacific in the same time of about $200,000,000. The two great railroad systems combined had a total freight and passenger business equal in value to the grain inspected by the small staff of men employed by the government.

The duties of the inspectors are not routine. They must make decisions. They must use judgment. And these decisions and these judgments are a matter of serious importance to the whole grain farming industry of Canada.

The men constituting the staff of the Inspection and Grading Department have duties which are professional in nature. This job is as important as the pro-

fession of law and medicine. The grain inspector's job is, however, not so regarded at present. His calling, his profession, should be exalted, dignified. There are various ways to dignify and exalt a job of this kind, such as rigid entrance requirements, security of tenure, generous compensation.

It is on the compensation side where the government might well adopt a new policy. An inspector now, inspecting out a cargo of grain, might be tempted, it is conceivable, to alter the grade improperly by one grade; this would affect the selling value of this one particular cargo by ten times the amount of his annual salary. This has never been known to happen, but is stated here to show the strain to which an inspector is subjected. Comparisons are illuminating. The Chief Grain Inspector of Canada, who has spent thirty years in the business, gets a salary of $6,000 a year. The heads of the large farmers' co-operatives in Canada and the United States have salaries ranging from $21,000 to $50,000 a year, but not in a single case is their work of one half the financial importance as that of the Chief Grain Inspector. The head of one of Canada's railroads is reported to have a salary of $60,000 a year, yet his decisions do not have half the importance of those of the Chief Grain Inspector. The Assistant Chief Grain Inspector has spent 26 years in the business and gets $4,380 a year. There are nine Chief Deputy Inspectors with terms of service ranging from 18 to 24 years, and with a salary of $3,240 a year. There are a number of Deputy Inspectors with terms of service ranging from 3 to 21 years, and with a salary of $2,880.

The Chief Inspector has devoted some thirty years to this work which is his profession. The various grades of inspectors have spent from 3 to 26 years in this service. It is their life work, their profession. To repeat, this profession should be dignified and exalted by the government, so that it would be as much of an honor in Canada to belong to this grain inspec-

tion staff as it is an honor in foreign countries to rank high in the army and navy, or in the professions of law and medicine. It is the Grain Inspection Department of Canada to whom is entrusted the integrity of the grades and the efficient moving of Canada's greatest crop into the channels of international commerce. These men have kept their trust. They are entitled to honor, and to proper financial rewards.

V—Conclusions.

The foregoing pages have stressed production as the beginning point of marketing. The consumers want a few simple grades of good wheat—wheat of desirable cleanness, quality and condition. Canada's answer is to produce 2,623 grades of wheat, a very large per cent of which is not of the right cleanness, quality or condition for milling and baking.

This situation has created and made indispensable the private terminal elevator, the mixing house. At this stage of economic evolution of Canada's one crop farming, the scientific mixing of grain is an inescapable necessity.

The grading of Canada's grain is a vital link in the chain of marketing. With the growth and present state of the mixing of grain, the grading has taken on new and added importance. The inspectors in construing the language of the Grain Act have applied a little stricter standard of grading to the grain coming out of private terminal elevators than to that coming out of public terminal elevators. They have maintained the integrity of Canadian grades and the Canadian Certificate Final in the markets of the world.

If reforms are to be suggested in the marketing of Canada's wheat, then the author of this bulletin submits these two:

1. Production.—The breeding of seed wheat should be on the same plane with the breeding of livestock. Fewer and better breeds of wheat are needed. Wheat production should have in mind one objective, namely, consumer demand, and the three factors which qualify or disqualify wheat in meeting this demand, namely, Cleanness, Quality, Condition.

2. Marketing.—It is assumed that the private elevator with its mixing is here to stay as long as wheat

production is what it is. The suggestion is made, therefore, that the keystone of the arch to the marketing problem is now the inspection and grading of the grain. Canada's grain has been standardized under a federal law, known as the Grain Act of 1912. The standards are internationally known, accepted and approved. The integrity of these standards and grades should be most jealously safeguarded. The best way to continue to guarantee the integrity of these grades is to exalt and dignify the professional job of the grain inspector.

APPENDIX

APPENDIX I.

Statement Showing Grades of Wheat Handled by Private Terminal Elevators at Fort William-Port Arthur, Crop Year 1926-27

(E. A. Ursell, Statistician, Board of Grain Commissioners)

WHEAT

	Total Receipts From the West Net bushels	Total Shipments Lake & Rail Net bushels
1 Hard	46,360-30	7,330-30
1 Northern	14,036,021-30	18,126,981-40
Dr. 1 Northern	2,344-50	—
2 Northern	32,638,476-00	40,670,850-50
Dr 2 Northern	38,495-00	44,740-20
3 Northern	13,748,243-50	25,045,395-20
No. 4	5,447,416-20	9,508,002-10
No. 5	2,009,256-20	3,220,782-40
No. 6	1,024,311-50	1,409,263-45
Feed	391,861-40	499,033-30
N.G. Tough 1 Hard	1,092-00	—
N.G. Tgh. 1 Northern	3,446,456-50	2,191,776-10
N.G. Tgh. 2 Northern	23,563,507-50	20,853,906-50
N.G Tgh. 3 Northern	23,236,494-30	15,467,316-30
N.G Tgh. No. 4	7,713,457-40	2,541,019-30
N.G. Tgh. No. 5	2,185,758-40	427,105-00
N.G. Tgh. No. 6	793,656-30	232,659-00
N.G. Tgh. Feed	185,658-20	2,200-00
N.G. Dp 1 Northern	101,950-50	—
N.G. Dp. 2 Northern	2,737,319-40	—
N.G. Dp. 3 Northern	4,055,850-10	—
N.G Dp No. 4	744,812-00	—
N.G. Dp. No. 5	188,481-10	1,470-00
N.G. Dp. No. 6	76,567-30	975-00
N.G. Dp. Feed	29,983-00	—
Rej. 1 Northern	11,045-10	1,579-40
Rej. 2 Northern	94,476-40	273-50
Rej. 3 Northern	49,170-40	1,152-20
Rej No. 4	13,779-50	—
Rej. No. 5	4,309-10	—
Rej. No. 6	408-20	—
Smutty 1 Northern	15 765-10	1,081-30
Smutty 2 Northern	47,777-00	33,143-30
Smutty 3 Northern	70,364-40	53,279-40
Smutty No. 4	19,950-30	8,122-00

	Total Receipts From the West Net bushels	Total Shipments Lake & Rail Net bushels
Smutty No. 5	6,267-50	—
Smutty No. 6	9,996-10	—
Smutty Feed	1,500-50	—
N.G. Tgh. Rej. 1 Northern	2,879-00	—
N.G. Tgh Rej. 2 Northern	71,682-30	—
N G. Tgh. Rej. 3 Northern	125,694-30	2,544-50
N.G. Tgh. Rej. No. 4	27,219-40	76-00
N.G. Tgh. Rej. No. 5	5,968-50	752-20
Dried Rej. 2 Northern	370-30	—
N.G Tgh. Rej. No. 6	—	8,865-00
N.G. Tgh. Sm. 1 Northern	12,034-00	—
N.G. Tgh. Sm. 2 Northern	80,123-50	17,062-50
N G. Tgh. Sm. 3 Northern	191,445-50	41,289-40
N.G Tgh Sm. No. 4	50,487-10	—
N.G. Tgh. Sm. No. 5	13,780-30	12,850-00
N.G. Tgh. Sm. No. 6	3,510-10	1,485-00
N G. Tgh. Sm. Feed	1,136-20	—
N.G. Dp. Rej. 1 Northern	1,065-50	—
N.G Dp. Rej. 2 Northern	2,262-00	—
N.G. Dp. Rej. 3 Northern	30,724-10	—
N.G. Dp. Rej. No. 4	4,128-40	—
N.G. Dp. Sm. 2 Northern	29,091-30	—
N.G. Dp. Sm. 3 Northern	135,076-30	—
N.G. Dp. Sm. No. 4	14,157-00	—
N.G. Dp. Sm. No. 5	1,031-20	—
N.G. Dp. Sm. No. 6	4,018-50	—
N.G. Tgh. 2 Northern Htg.	12,992-20	—
N.G. Tgh. 3 Northern Htg.	37,645-50	—
N G. Tgh. No. 4 Htg.	15,447-00	—
N.G. Tgh. No. 5 Htg.	3,230-20	—
N.G. Tgh. No. 6 Htg.	2,380-30	—
N.G. Dp. 2 Northern Htg	2,042-50	—
N.G. Dp. 3 Northern Htg.	6,305-20	—
N.G. Dp. No. 4 Htg.	1,196-00	—
N.G. Dp. No. 5 Htg.	463-40	—
N.G. Dp. No. 6 Htg.	2,255-00	—
N.G. Tgh. 2 Northern & Htg.	183-10	—
N.G. Tgh. 3 Northern & Htg.	2,673-30	—
N.G. Tgh. No. 4 & Htg.	1,724-30	—
N.G. Tgh. Feed & Htg.	337-20	—
N.G. Dp. 2 Nor. & Htg.	2,376-50	—
N.G. Dp. 3 Nor. & Htg.	2,576-50	—
N.G. Dp. No. 6 & Htg.	295-10	—
N.G. Tgh. Rej. 2 Northern Htg.	1,424-10	—
N.G. Tgh Rej. 3 Northern Htg.	2,570-50	—

	Total Receipts From the West Net bushels	Total Shipments Lake & Rail Net bushels
N.G. Dp. Rej. 3 Northern Htg.	349-30	—
Rej. 1 Northern Mix. Htd.	937-10	—
Rej. 2 Northern Mix. Htd.	11,771-20	—
Rej. 3 Northern Mix. Htd.	7,374-10	1,905-00
Rej. No. 4 Mix. Htd.	7,288-00	1,009-30
Rej. No. 5 Mix. Htd.	10,874-10	10,801-30
Rej. No. 6 Mix. Htd.	639-00	—
Rej. Feed Mix. Htd.	—	2,590-40
N G. Tgh. Rej 1 Northern Mix. Htd.	1,497-20	—
N.G. Tgh. Rej 2 Northern Mix. Htd.	14,960-10	2,503-00
N G. Tgh. Rej. 3 Northern Mix. Htd.	55,431-50	1,264-40
N.G. Tgh. Rej. No. 4 Mix. Htd.	8,114-20	4,290-30
N.G. Tgh. Rej. No. 5 Mix. Htd.	413-40	—
N.G. Tgh. Rej. Feed Mix. Htd.	—	950-00
N.G. Dp Rej. 2 Northern Mix Htd.	1,988-10	—
N.G. Dp. Rej. 3. Northern Mix. Htd.	9,284-50	—
N.G. Dp. Rej. No. 4 Mix. Htd.	4,306-30	—
N.G. Dp. Rej. No .5 Mix. Htd.	943-00	—
N.G. Tgh. Sm. Rej. 3 Northern Mix. Htd.	413-20	—
N.G. Tgh. Rej. 2 Northern Mix. Htd. & Htg.	2,867-50	—
N.G. Tgh. Rej. 3 Northern Mix. Htd. & Htg.	7,873-00	—
N.G. Tgh. Rej. No. 4 Mix. Htd. & Htg.	10,175-00	—
N.G. Tgh. Rej. No. 5 Mix. Htd. & Htg	1,016-20	1,014-40
N.G. Tgh. Rej. No. 6 Mix. Htd. & Htg.	388-50	—
N G. Dp. Rej. 3 Northern Mix. Htd. & Htg.	8,128-20	—
N G. Dp. Rej. No. 4 Mix. Htd. & Htg.	392-50	—
N G. Dp. Rej. No. 5 Mix. Htd. & Htg.	111-20	—
N.G. Dp. Rej. No. 6 Mix. Htd. & Htg.	196-30	—
Smutty Rej. 3 Northern	1,479-10	695-50
N.G. Tgh. Sm. Rej. 2 Northern	1,082-10	—
N.G. Tgh. Sm. Rej. 3 Northern	1,373-50	—
N G. Tgh. Sm. Rej. No. 4	1,896-20	—
N.G. Dp. Sm. Rej. 3 Northern	907-00	—
N.G. Tgh. 2 Northern Mix. Htg.	1,447-30	—
N.G. Tgh. No. 4 Mix. Htg.	1,357-30	—
N.G. Tgh. Feed Mix. Htd.	391-50	—
N.G. Tgh. 3 Northern Musty	2,880-50	—
N.G. Tgh. No. 4 Musty	274-30	—
Rej 1 Northern Mix. Fireburnt	238-30	—
Rej. 2 Northern Mix. Fireburnt	511-10	—
Rej. No. 4 Mix. Fireburnt	1,519-00	1,000-00
N.G. Tgh. Rej. 2 Northern Mix. Fbt.	674-50	—
N.G. Tgh. Rej. 3 Northern Mix. Fbt.	3,899-10	2,014-00
Condemned Fbt.	2,636-10	—
N.G. Tgh. Cond. No. 5 Fbt.	4,216-20	1,190-00

	Total Receipts From the West Net bushels	Total Shipments Lake & Rail Net bushels
N.G. Tgh. Cond. No. 1 Htd.	10-40	—
Condemned No. 2	—	2,413-50
N.G. Tgh. Cond. No. 2 Htd. & Htg.	381-40	—
N.G. Tgh. Cond. No. 1 Htd.	1,420-20	—
N.G. Tgh. Con. No. 2 Htd.	291-40	—
N.G. Dp. Cond. No. 2 Htd.	1,328-20	—
N.G. Tgh. Rej. No. 6 Mix. Htd.	—	1,000-00
Sm. Rej. 2 Nor.	—	748-50
Cond. No. 1 Mix. Htd.	—	1,238-30
N.G. Tgh. Cond. No 1 Htd. & Htg	794-00	—
N.G. Tgh. Cond. No. 2	1,569-10	—
N.G. Tgh. Cond. No. 1 Mix. Htd.	1,778-20	—
N G. Dp. Cond. No. 1	612-20	—
N.G Tgh. Cond No 1 Rej Mix Fht. Mix. Cinders	1,150-40	—
Cond No. 2 Htd.	536-40	536-40
N.G Dp. Cond. No. 1 Htd. & Htg.	1,167-50	—
N G. Dp Cond. No. 1 Mix. Htd. & Htg	209-00	—
N.G Dp Cond. No. 1 Htg.	2,167-10	—
N.G. Dp. Cond. No. 1 Mix. Htd.	357-20	—
N.G. Dp. Cond No. 2 Mix. Htd.	329-00	—
N G. Dp. Cond. No. 2	95-20	—
N G Tgh. Cond. No. 1 Htd. & Htg.	1,187-10	—
N G. Dp Cond. Htd. No. 2	1,058-00	—
N.G. Tgh. Cond. No. 1	405-10	—
N G. Dp. Cond. No. 2 Mix. Htd. & Htg.	268-20	—
N G Dp. Cond. No. 2 Htd. & Htg.	793-00	—
Cond. No. 2 Htg.	436-50	—
N.G. Tgh. Rej. 3 Nor. Htd.	1,585-50	—
N.G Tgh. Rej. Rej. 3 Nor Mix. Htd	568-40	—
N.G. Tgh. Rej. 3 Nor. Rej Mix. Htd.	1,027-00	—
N G. Tgh. Sm. Rej. 3 Nor Htd.	733-50	—
N.G. Dp. Rej. 3 Nor Mix. Chips	387-50	—
N G Tgh. Rej. No. 4 Mix. Gravel	1,848-40	—
N.G. Tgh. Rej. 3 Nor. Mix. Gravel & Sand	2,629-20	7,000-00
N.G. Dp. Rej. No. 4 Mix. Coal & Cinders	87-50	—
Rej. 1 Nor Mix. Sand & Gravel	1,187-40	—
N.G. Tgh Rej. No. 4 Mix. Coal	335-30	—
N.G. Tgh. Rej. No. 1 Mix. Coal	669-00	—
N.G. Tgh. Rej. 2 Nor. Mix. Cind. & Earth	1,450-40	—
N.G. Tgh. Rej. 3 Nor. Mix. Sand & Gravel	2,006-40	—
Rej. 3 Nor. Mix. Coal	1-10	—
N.G. Tgh. Rej. 3 Nor. Mix. Coal	1,907-30	—
N.G. Dp. Rej. 2 Nor. Mix. Gravel & Sand	46-50	—
Rej. 2 Nor. Mix. Gravel	12,309-40	—
N.G. Dp. Rej. 3 Nor. Mix. Sand & Gravel	920-10	—

	Total Receipts From the West Net bushels	Total Shipments Lake & Rail Net bushels
N G Tgh. Rej. 3 Nor Mix. Gravel	9,386 30	—
N G. Tgh. Rej. 2 Nor. Mix. Gravel	11,188-20	—
N.G. Dp. Rej. 3 Nor. Mix. Sand & Rock	239-20	—
N G. Dp. Rej. 3 Nor. Mix. Cinders	1,024-10	—
Rej No. 4 Mix. Sand, Gravel & Cinders	3-20	—
N.G. Dp Rej. 3 Nor. Mix. Cinders, Ice & Snow	3,815-40	—
Sm Rej 3 Nor. Sptd	—	5,938-00
N G Tgh. Rej. 2 Nor. Mix. Sand & Gravel	314-00	—
Rej. 3 Nor. Mix. Gravel	3,094-10	—
N.G Dp. Rej. 2 Nor. Mix. Cinders	255-20	—
N.G. Dp Rej. 2 Nor. Mix. Gravel	1-30	—
N.G. Tgh Rej. 3 Nor Mix. Gravel & Stones	3,694-40	—
N G. Tgh. Rej. No. 4 Mix. Coal & Cinders	1,362-50	—
Rej. 2 Nor . Mix. Gravel & Sand	1,594-50	—
N G Dp. Rej No. 5 Mix. Sand & Gravel	959-10	—
N G. Dp. Rej. 3 Nor. Mix. Gravel	2,733-10	—
N G. Tgh. Rej. 2 Nor. Mix. Gravel & Sand & Earth	168-10	—
Rej. No. 5 Mix. Rotten Kernels	5,760-50	—
N G. Dp. Rej. No. 5 Mix Rotten Kernels	659-50	—
Rej No. 4 Mix. Rotten Kernels Rej. Sptd.	360-20	—
N G. Tgh. Rej. 2 Nor Mix Rotten Kernels	2,464-40	—
N G. Tgh. Rej. No. 4 Sptd. Rej. Mix. Rotten Kernels	960-40	—
N G Tgh Rej. 3 Nor. Mix. Rotten Kernels	983-10	—
N G. Tgh. Rej. No. 4 Mix. Rotten Kernels	4,136-00	—
Rej 2 Nor. Sptd.	4,628-30	—
Rej. 3 Nor. Sptd.	383,125-00	262,739-10
Rej No. 4 Sptd.	112,377-30	—
Rej. No. 5 Sptd.	2,853-00	—
N.G. Tgh. Rej. 2 Nor. Sptd.	18,433-00	—
N.G. Tgh. Rej. 3 Nor. Sptd.	3,250,260-20	526,143-35
N.G. Tgh. Rej. No. 4 Sptd.	276,914-30	1,000-00
N.G. Tgh. Rej. No. 5 Sptd.	30,223-20	—
N.G. Dp. Rej. 2 Nor. Sptd.	4,529-40	—
N.G. Dp. Rej. 3 Nor. Sptd.	773,942-10	1,500-00
N G. Dp Rej No. 4 Sptd.	149,822-40	—
N.G. Dp. Rej. No. 5 Sptd.	16,959-10	—
Rej. No. 5 Rej. Sptd.	165-30	—
N.G. Tgh. Sm. Rej. 2 Northern Sptd.	801-50	—
N.G. Tgh. Sm. Rej. 3 Northern Sptd.	21,868-40	—
N.G. Tgh. Sm. Rej. No. 4 Sptd.	1,345-40	—
N G. Tgh. Sm. Rej. 3 Nor. Sptd.	1,345-40	1,372-30
N.G. Tgh. Rej. Sm. 3 Nor. Sptd.	651-10	—
N.G. Tgh. Rej. 3 Nor. Rej. Sptd.	11,515-40	—
N.G. Dp. Rej. 3 Nor. Rej. Sptd.	1,140-00	—
N.G. Tgh. Rej. Rej. 3 Nor. Sptd.	3,815-00	—

	Total Receipts From the West Net bushels	Total Shipments Lake & Rail Net bushels
N G. Dp. Rej. Rej. 3 Nor. Sptd. Mix. Htd	1,103-30	—
N.G Tgh. Rej 3 Nor. Sptd Rej. Mix. Htd.	1,218-50	—
N.G. Tgh. Sm. Rej. 3 Nor. Sptd. & Htg.	749-40	—
N G Tgh. Rej. 3 Nor. Sptd Rej Mix. Htd. & Htg,	1,424-40	—
N.G Dp. Rej. 3 Nor. Sptd. Rej. Mix. Htd. & Htg.	509-30	—
N.G Tgh. Rej. No. 4 Sptd. Rej Mix. Htd. & Htg.	1,401-10	—
N.G. Tgh. Sm. Rej. No. 5 Sptd.	—	1,500-00
N G. Tgh Sm. & Musty No. 4	406-30	—
N G. Dp. Rej. 3 Nor. Rej. Sptd Rej. Mix. Htd.	1,086-20	—
N.G. Tgh Rej. No. 4 Sm Sptd.	1,004-20	—
N G. Tgh. Rej. No. 4 Sptd. & Musty	1,276-40	—
Rej 3 Nor. Rej. Sptd.	2,124-00	—
N G. Dp. Sm Rej. 3 Nor Sptd	16,501-30	—
N G Tgh. Rej. 2 Nor. Rej Sptd.	1,009-10	—
N.G. Dp. Sm. Rej. No 4 Sptd.	2,494-30	—
N G. Dp. Rej. Sm. 3 Nor. Sptd.	304-30	—
N.G. Dp. Rej. 3 Nor. Mix. Htd Rej Sptd.	784-20	—
Rej. 3 Nor. Sptd. Rej. Mix Htd.	1,230-00	—
N.G Tgh. Rej. 3 Nor. Sptd. & Htg.	1,504-50	—
N G. Tgh. Rej. No 4 Sptd. & Htg.	2,005-40	—
N.G. Dp. Rej. No. 4 Sptd. & Htg.	1,484-30	—
N.G. Tgh. Rej. 3 Nor Sptd. & Htg.	4,595-10	—
N.G. Dp. Rej. 3 Nor. Sptd. & Htg.	1,693-40	—
N.G Tgh. Rej. 3 Nor. Sptd. Rej. Mix. Htd.	5,539-50	—
N.G. Tgh. Rej. No. 5 Sptd. & Htg.	317-40	—
N.G. Tgh. Rej. 3 Nor. Sptd. Htd. & Htg.	1,038-20	—
N.G. Tgh. Rej. No. 4 Sptd. Rej. Mix. Htd.	2,720-10	—
N.G. Dp. Rej. 3 Nor. Sptd & Musty	1,105-30	—
1 C.W. Amber Durum	29,225-30	15,086-40
2 C.W. Amber Durum	494,562-50	980,648-30
3 C.W. Amber Durum	859,360-00	2,517,350-20
4 C.W. Amber Durum	77,464-40	21,015-20
5 C.W. Amber Durum	5,546-20	—
N.G. Tgh. 1 C.W. Amb. Dur.	5,484-20	1,031-40
N.G. Tgh. 2 C.W. Amb. Dur.	449,017-30	201,258-30
N.G. Tgh. 3 C.W. Amb. Dur.	5,192,020-30	6,329,540-30
N.G. Tgh. 4 C.W. Amb. Dur.	498,812-00	102,854-10
N.G. Tgh. 5 C.W. Amb. Dur.	17-40	—
N.G. Dp. 1 C.W. Amb. Dur.	2,818-20	—
N.G. Dp. 2 C.W. Amb. Dur.	28,205-00	—
N.G. Dp. 3 C.W. Amb. Dur.	591,450-30	—
N.G. Dp. 4 C.W. Amb. Dur.	101,764-30	—
N.G Dp. 5 C.W. Amb. Dur.	1,385-30	—
Rej. 1 C.W. Amb. Dur.	1,059-40	1,059-40
Rej. 2 C.W. Amb. Dur.	40,544-20	32,686-40

	Total Receipts From the West Net bushels	Total Shipments Lake & Rail Net bushels
Rej. 3 C.W. Amb. Dur	41,729-40	60,181-00
Rej. 4 CW. Amb. Dur.	2,532-00	769-00
Sm. 2 C.W. Amb. Dur.	31,784-00	17,851-40
Sm. 3 C.W. Amb. Dur.	45,257-00	112,213-30
Sm. 4 C.W. Amb Dur.	5,320-00	748-30
N.G. Tgh Rej. 1 C.W. Amb Dur	7,654-40	719-30
N.G. Tgh. Rej. 2 C.W. Amb. Dur.	78,153-40	16,206-20
N.G. Tgh. Rej. 3 C.W. Amb. Dur.	327,517-30	88,482-20
N.G. Tgh. Rej 4 C.W. Amb. Dur.	15,159-00	1,934-30
N G Tgh. Sm. 2 C W Amb. Dur.	18,866-40	10,855-50
N.G Tgh. Sm 3 C.W. Amb. Dur.	268,340-10	283,086-00
N.G. Tgh. Sm. 4 C.W. Amb. Dur.	31,506-20	3,759-50
N.G. Dp. Rej 2 C.W. Amb. Dur.	6,961-30	—
N.G Dp Rej. 3 C.W. Amb. Dur.	39,831-20	—
N.G. Dp Rej. 4 C.W Amb. Dur.	1,978-20	—
N.G. Dp. Sm 2 C.W. Amb. Dur	3,260-30	—
N.G Dp Sm 3 C.W. Amb Dur.	16,144-30	—
N G Dp Sm. 4 C.W. Amb. Dur.	1,185-50	—
N.G. Tgh 3 C.W. Amb. Dur. Htg	3,850-10	—
Rej. 2 C.W. Amb. Dur. Sptd.	15,066-40	30,769-20
Rej. 3 C.W Amb. Dur. Sptd.	84,703-50	365,400-50
Rej 4 C W. Amb. Dur. Sptd.	3,784-30	8,687-40
N G. Tgh. Rej. 2 C.W. Amb. Dur Sptd.	243,879-10	67,920-00
N G Tgh. Rej. 3 C.W. Amb. Dur. Sptd	2,162,381-00	1,462,525-40
N.G. Tgh Rej. 4 C.W. Amb. Dur. Sptd.	124,125-10	2,876-10
N.C Tgh. Rej 5 C.W. Amb. Dur. Sptd.	4,337-20	—
N G. Dp. Rej. 2 C.W. Amb. Dur. Sptd.	19,667-50	—
N G. Dp Rej 3 C.W. Amb. Dur. Sptd.	351,548-50	—
N.G. Dp Rej. 4 C.W. Amb. Dur. Sptd.	57,068-00	—
N G. Dp Rej. 5 C.W. Amb. Dur. Sptd.	3,198-20	—
N G. Tgh. Sm. Rej. 2 C.W. Amb. Dur. Sptd.	11,776-10	—
N G. Tgh. Sm Rej. 3 C.W. Amb. Dur. Sptd.	142,420-50	14,301-00
N.G Tgh. Sm. Rej. 4 C.W. Amb. Dur. Sptd.	14,815-00	213-00
N.G. Dp Sm. Rej. 2 C.W. Amb. Dur. Sptd.	890-10	—
N.G. Dp. Sm. Rej. 3 C.W. Amb. Dur. Sptd.	16,506-20	—
Sm. Rej. 3 C.W. Amb. Dur.	3,083-40	6,800-00
Sm. Rej. 2 C.W. Amb. Dur.	1,629-40	2,735-30
N.G. Dp. Sm. 3 C.W. Amb. Dur.	2,917-00	—
N.G Tgh Sm Rej 2 C.W. Amb. Dur.	—	5,931-00
N.G. Dp. Sm. 4 C W. Amb. Dur.	807-30	—
N.G. Lp. Sm. Rej. 3 C.W. Amb. Dur.	3,070-20	—
N.G. Dp. Sm. Rej. 4 C.W. Amb. Dur.	1,637-40	—
N.G. Dp. Sm. Rej 3 C.W. Amb. Dur. Rej. Sptd.	2,151-10	—
N.G. Tgh. Sm. Rej. 3 C.W. Amb. Dur. Rej. Sptd.	2,587-40	—
Rej. 3 C.W. Amb. Dur. Sptg.	1,660-10	—

	Total Receipts From the West Net bushels	Total Shipments Lake & Rail Net bushels
N G. Dp Sm. Rej Rej. 3 C.W Amb Dur. Sptd.	600-40	—
N.G Dp. Sm. Rej. 4 C.W. Amb Dur. Sptd.	428-10	—
N G Tgh. Sm. Rej. 3 C W. Amb. Dur.	—	4,037-50
N.G. Tgh. Sm. Rej. 4 C.W. Amb. Dur	—	2,443-20
Sm. Rej 4 C W. Amb. Dur.	—	1,051-40
N G Tgh. Rej 4 C W Amb. Dur. Rej Sptd	454-30	—
Sm. Rej. 2 C.W. Amb. Dur. Sptd.	826-30	—
Sm. Rej 3 C.W Amb Dur. Sptd.	4,529-40	24,169-50
Sm. Rej. 4 C.W Amb. Dur. Sptd.	1,240-10	—
N.G Tgh Rej Rej. 2 C.W. Amb. Dur. Sptd.	3,134-00	—
N G. Tgh. Rej. 4 C W. Amb. Dur Rej. Sptd.	377-50	—
N.G. Tgh. Rej. 3 C.W. Amb. Dur. Sptd. Rej. Htd.	1,349-00	—
N.G Tgh. Rej. 3 C W. Amb. Dur Sptd. Rej Mix. Htd	4,749-00	—
N G. Dp Rej. 3 C W. Amb. Dur. Sptd. Rej. Mix. Htd	1,354-50	—
N.G. Tgh. Rej. 3 C.W. Amb Dur Mix. Htd. Rej. Sptd.	127-00	—
N G Tgh Rej. 3 C.W. Amb. Dur. Rej. Sptd Rej Htd. & Htg.	887-50	—
N G. Tgh. Rej 3 C W Amb Dur Sptd. Rej. Mix. Htd. & Htg.	9,640-00	—
Rej. 3 C W. Amb Dur. Rej. Sptd	3,008-00	612-00
N G Tgh. Sm 3 C.W. Amb Dur. Rej Sptd.	1,340-50	34,798-10
N.G. Tgh. Sm. Rej. 4 C.W. Amb. Dur. Rej. Sptd.	1,016-10	—
Rej 3 C.W Amb. Dur. Sptd Rej. Mix. Htd.	1,232-50	—
N.G. Tgh. Rej. 4 C W. Amb. Dur. Sptd. Rej. Mix. Htd.	1,492-00	—
N.G. Tgh Rej. 3 C.W. Amb. Dur. Htd. & Sptd.	1,166-40	—
N G. Dp. Rej. Rej. 3 C.W. Amb. Dur. Sptd.	876-50	—
N G Tgh. Rej. 3 C W Amb. Dur. Sptd Rej. Mix. Htd. & Htg.	2,024-00	—
N.G. Tgh. Rej. 3 C.W. Amb. Dur. Rej. Mix. Htd. Sptd.	2,390-50	—
N.G. Dp. Rej. 3 C.W. Amb. Dur. Rej. Sptd.	2,405-50	—
N.G. Dp. Rej. 2 C.W. Amb Dur. Rej. Sptd.	597-50	—
N.G. Tgh. Rej. Rej. 3 C.W. Amb. Dur. Sptd.	16,952-30	1,283-30
N G. Dp. Rej. Rej. 3 C.W. Amb. Dur. Sptd.	496-50	—
N.G. Tgh. Sm. Rej. Rej. 3 C.W. Amb. Dur. Sptd	—	1,183-20
N.G. Tgh. Rej. 3 C.W. Amb. Dur. Rej. Sptd.	19,527-20	59,124-20
N.G. Tgh. Rej. 2 C.W. Amb. Dur. Rej Sptd.	22 860-50	—
N.G. Dp. 3 C.W. Amb. Dur. Rej. Sptd.	1,460-20	—
N.G Tgh. Rej. 2 C.W. Amb Dur. Rej. Sptd.	1,032-50	—
Rej. 3 C.W Amb. Dur. Sptd. & Htg.	5,090-10	—
N.G. Dp. Rej. 4 C.W. Amb. Dur. Rej. Sptd.	968-40	—
N.G. Tgh. Rej 3 C.W. Amb. Dur. Sptd. & Htg	26,961-00	—
Rej. 3 C.W. Amb Dur. Sptd. Htd. & Htg.	1,128-20	—
N G. Tgh. Rej. 4 C W. Amb. Dur. Sptd & Htd	2,020-20	—
N.G. Tgh. Rej. 5 C.W. Amb. Dur. Sptd. Rej Mix. Htd.	103-30	—
N.G Tgh. Rej. Sm. 4 C.W. Amb. Dur Sptd.	1,043-10	—

	Total Receipts From the West Net bushels	Total Shipments Lake & Rail Net bushels
N.G Tgh. 4 C.W. Amb Dur Htg.	27-20	—
N G Tgh 4 C W. Amb. Dur. Musty & Htg.	973-30	—
N.G. Dp Rej 4 C.W Amb Dur Mix Htd	988-30	—
N G. Dp. Cond. Amb Dur. Mix. Htd.	962-40	—
N.G. Tgh. Sm 3 C W. Amb Dur. Rej. Mix. Htd.	73-00	—
N G. Dp Cond 1 C W. Amb. Dur. Htd.	473-00	—
N G Tgh Sm Rej 3 C W Amb Dur. Rej Mix Htd. Sptd.	—	806-00
N G Tgh Rej. Rej 2 C W Amb. Dur. Sptd	—	1,034-50
N G. Tgh. 4 C W Amb. Dur. Musty	1,103-20	—
N.G Tgh Cond Amb. Dur. Mix. Htd. & Htg	223-30	—
N.G Dp Cond. Amb. Dur. Mix. Htd. & Htg.	195-30	—
N G. Tgh 3 C.W Amb. Dur. Htg.	10,648-20	—
N G Tgh. 3 C.W. Amb Dur. & Htg	602-40	—
N.G. Tgh Sm. 3 C.W Amb. Dur. Htg	926-00	—
N G Dp 3 C W. Amb Dur. Htg.	1,311-30	—
N.G. Dp 3 C W. Amb. Dur Htd	1,319-30	—
N.G Tgh. Rej. 4 C.W. Amb. Dur Mix Htd.	1,990-30	—
N G. Dp. 4 C W Amb. Dur. Htg	1,054-00	—
N.G. Tgh Sm. Rej. 3 C W. Amb. Dur	5 739-00	—
N.G. Tgh Sm. 3 C.W. Amb. Dur Htg.	909-30	—
N.G. Tgh. Rej. 3 C W. Amb. Dur. & Htg	1,149-30	—
N.G. Tgh. Rej. Sm. 4 C.W. Amb. Dur.	702-30	—
N.G Tgh. Rej. Sm. 3 C.W. Amb Dur.	8,249-20	—
N.G Dp. Rej. 3 C.W Amb. Dur. Rej. Mix. Htd.	1,051-40	—
N G. Tgh. Sm. Rej. 4 C.W. Amb. Dur.	277-10	—
N G. Tgh Rej 3 C.W. Amb. Dur. Rej. Mix. Htd.	2,577-10	—
N G Tgh. Rej. Rej. 3 C.W. Amb. Dur. Mix. Htd	392-20	—
N.G Dp. Rej. 4 C.W. Amb Dur Mix. Htd.	1,114-30	—
Rej 3 C.W. Amb. Dur. Mix. Htd.	1,044-30	2,000-00
N G. Tgh. Rej. 3 C W Amb. Dur. Mix. Htd.	6,267-50	1,858-30
N.G. Tgh. 4 C W. Amb. Dur Rej Mix. Htd	2,248-00	—
N.G Tgh. Rej. 3 C.W. Amb. Dur. Htd & Htg.	1,332-00	—
N G Tgh. Rej. 3 C.W. Amb. Dur. Htd.	336-30	—
N G Tgh. Sm. Rej. 4 C.W. Amb Dur Htd.	959-40	—
N.G. Tgh. Rej. 4 C W. Amb. Dur. Htd. & Htg	2,018-50	—
N.G. Tgh. Rej. 3 C W. Amb. Dur Sptd. Rej. Mix. Htd. & Htg.	746-40	—
N.G. Tgh. 3 C.W. Amb. Dur. Rej. Mix. Htd. & Htg.	1,087-30	—
N.G. Tgh. Rej. 2 C W. Amb. Dur. Mix. Htd. & Htg.	474-10	—
N.G. Tgh. Rej. 3 C.W. Amb. Dur. Mix. Htd. & Htg.	7,012-10	—
N.G Tgh. Rej. 4 C.W. Amb. Dur. Mix. Htd. & Htg.	870-50	—
N.G. Dp. Rej 3 C.W. Amb. Dur. Mix. Htd. & Htg.	3 014-40	—
Sm. 3 C.W. Amb. Dur. Rej. Mix. Htd.	1,645-30	—
N.G. Dp. Rej. 3 C.W Amb. Dur. Htd & Htg.	735-20	—

	Total Receipts From the West Net bushels	Total Shipments Lake & Rail Net bushels
N.G. Tgh. 4 C.W Amb Dur Mixed Rotten Kernels	597-20	—
N.G Tgh. Rej. 3 C.W Amb. Dur. Mix Rotten Kernels	993-00	—
Rej. 3 C W. Amb. Dur Mix Rotten Kernels	1,082-50	10,400-00
Rej 4 C W. Amb. Dur. Mix. Rotten Kernels	5,421-40	—
Rej. 5 C.W. Amb. Dur. Mix. Rotten Kernels	1,881-30	—
N.G. Tgh. Rej. 4 C W Amb. Dur Mix. Rot. Kernels	1,421-50	—
Rej. 3 C.W Amb. Dur. Rej. Mix Htd.	—	1,041-00
N G. Tgh. Rej. 5 C.W. Amb. Dur. Mix. Rot. Kernels	3,940-30	—
N.G. Tgh Rej. 3 C.W. Amb. Dur & Htg Mix. Rotten Kernels	1,123-30	—
N.G. Tgh. Rej. 4 C W. Amb. Dur. Rej. Mix. Rotten Kernels	1,318-40	—
N G Dp Rej. 4 C W. Amb. Dur. Mix. Rotten Kernels	979-50	—
N.G. Tgh. 5 C.W. Amb. Dur Mix Rotten Kernels	1,291-40	—
N G Tgh Rej 4 C.W. Amb. Dur. Sptd. Mix. Rotten Kernels	487-10	—
N G. Tgh. Rej. 4 C W. Amb. Dur. Rej Mix. Rotten Kernels Sptd.	1,399-30	—
N.G. Tgh. Rej 3 C W. Amb Dur Mix Rotten Kernels	613-40	—
N G Tgh Rej. 3 C.W. Amb. Dur. Mix. Rot. Kernels Htg.	795-20	—
1 C W. Amb. Durum & Spg	22,072-00	2,177-00
2 C.W. Amb. Durum & Spg.	20,699-40	2,672-20
3 C W. Amb. Durum & Spg.	13,606-50	4,413-00
N.G. Tgh. 2 C.W. Amb. Dur. & Spg.	14,790-30	1,701-30
N.G. Tgh. 3 C.W Amb Dur & Spg.	29,282-20	1,046-10
N G. Tgh 4 C.W. Amb. Dur. & Spg.	440-50	—
N.G. Dp. 2 C.W. Amb. Dur. & Spg	1,455-00	—
N.G. Dp. 3 C.W Amb. Dur. & Spg	8,108-50	—
N.G. Dp. 4 C W Amb. Dur. & Spg.	1,967-10	—
Rej 2 C.W. Amb. Dur. & Spg.	719-40	3,078-40
Rej. 3 C.W. Amb. Dur. & Spg.	631-40	—
N.G. Tgh. Rej. 2 C.W. Amb Dur. & Spg.	5,563-20	—
N.G. Tgh. Rej. 3 C.W. Amb. Dur. & Spg.	10,480-30	1,598-40
N.G. Dp. Rej. 3 C.W. Amb. Dur. & Spg.	561-30	—
N.G. Tgh. Amb. Dur. & Spring	541-30	—
N.G. Dp. Amb. Dur. & Spring	410-40	—
N.G. Tgh. Rej 3 C.W. Amb. Dur. & Spg.	1,145-50	—
N.G. Tgh. 2 C.W. Amb. Dur. & Spg. Htg.	223-40	—
N.G. Tgh. Sm. 3 C.W. Amb. Dur. & Spg.	6,553-50	436-30
N.G. Tgh. Rej. 3 C W. Amb. Dur. & Spg. Sptd.	1,799-50	—
N.G. Tgh. Rej. 3 C W. Amb. Dur. & Spg. Rej. Htd.	6-40	—
1 C.W. Red Durum	—	951-10
2 C W. Red Durum	4,145-10	—
3 C.W. Red Durum	2,472-00	5,007-10
4 C.W. Red Durum	1,179-50	—
N.G. Tgh. 1 C.W. Red Durum	—	733-40

	Total Receipts From the West Net bushels	Total Shipments Lake & Rail Net bushels
N.G. Tgh. 2 C.W. Red Durum	7,509-10	1,061-10
N.G. Tgh. 3 C.W. Red Durum	44,024-20	3,189-00
N.G. Tgh. 4 C.W. Red Durum	1,951-30	—
N.G. Tgh. 5 C.W. Red Durum	431-30	—
N.G. Dp. 1 C.W. Red Durum	1,003-20	—
N.G. Dp. 3 C.W. Red Durum	13,549-10	—
N.G. Dp. 4 C.W. Red Durum	874-40	—
Sm. 2 C.W. Amb. Dur. & Spg.	1,311-40	—
N.G. Tgh. Rej. Rej. 3 C.W. Amb. Dur & Spg. Sptd.	993-10	—
N.G. Tgh. Sm. 3 C.W. Red Durum	—	1,130-10
4 C.W. Amb. Dur. & Spring	—	40,313-00
Sm. 2 C.W. Amb. Dur. & Spring	—	323-10
Rej. 3 C.W. Red Durum	2,887-10	—
N.G. Tgh. Rej. 2 C.W. Red Durum	1,082-50	1,082-50
N.G. Tgh. Rej. 3 C.W. Red Durum	6,894-40	993-30
N.G. Tgh. Sm. 2 C.W. Red Durum	2,308-20	—
N.G. Tgh. Sm. Rej. 3 C.W. Red Durum	2,985-20	2,587-00
N.G. Tgh. Sm. 3 C.W. Red Durum	2,328-10	—
N.G. Dp. Rej. 3 C.W. Red Durum	1,878-10	—
Sm. 3 C.W. Red Durum	993-30	—
N.G. Tgh. Rej. 2 C.W. Red Durum Sptd.	1,630-20	—
N.G. Tgh. Rej. 3 C.W. Red Durum Sptd.	3,667-40	—
N.G. Tgh. 3 C.W. Red Durum Htg.	568-00	—
N.G. Tgh. Rej. 3 C.W. Red Durum Mix. Htd. & Htg.	861-30	—
N.G. Tgh. Rej. 4 C.W. Red Dur. Htd	647-00	—
1 C.W. Hard White Spring	1,070-30	—
2 C.W. Hard White Spring	39,609-20	19,259-40
3 C.W. White Spring	34,975-10	5,000-00
N.G. Tgh. 1 C.W. Hard White Spg.	2,012-20	526-40
N.G. Tgh. 2 C.W. Hard White Spg.	12,070-30	—
N.G. Tgh. 3 C.W. White Spg.	17,954-40	29-30
N.G. Tgh. 4 C.W. White Spg.	2,299-00	—
N.G. Tgh. 5 C.W. White Spg.	514-00	—
N.G. Dp. 3 C.W. White Spg.	7,181-30	—
N.G. Dp. 4 C.W. White Spring	15-10	—
N.G. Dp. 5 C.W. White Spring	2,149-30	—
Rej 1 C.W. Hard White Spg.	1,006-40	—
Rej. 2 C.W. Hard White Spg.	2,141-10	—
N.G. Tgh. Rej. 2 C.W. Hard W. Spg.	3,097-20	—
N.G. Tgh. Rej. 3 C.W. White Spg.	1,446-00	—
N.G. Tgh. Rej. 4 C.W. White Spg.	1,600-00	—
N.G. Tgh. Rej. 5 C.W. White Spg.	1,735-50	—
N G. Dp. Rej. 2 C.W. Hard W. Spg.	1,104-30	—
Rej. 2 C.W. Hard White Spg. Sptd.	6,263-10	—
Rej. 3 C.W.W. Spg. Sptd.	11,099-00	799-06

	Total Receipts From the West Net bushels	Total Shipments Lake & Rail Net bushels
Rej. 4 C.W.W. Spg. Sptd.	4,532-10	—
Rej. 5 C.W.W. Spg. Sptd.	2,765-10	—
N.G. Tgh. Rej. 2 C.W. Hard W. Spg Sptd	3,043-50	—
N.G. Tgh. Rej. 3 C.W.W. Spg. Sptd.	47,211-40	—
N.G. Tgh. Rej. 4 C.W.W. Spg. Sptd	54,427-20	12,102-10
N.G. Tgh. Rej. 5 C.W.W. Spg. Sptd	28,335-50	1,058-40
N.G. Dp. Rej. 3 C.W.W. Spg. Sptd.	11,983-40	—
N G. Dp Rej. 4 C.W.W. Spg. Sptd.	13,398-30	—
N G. Dp. Rej 5 C.W.W. Spg Sptd.	13,480-00	—
N.C. Tgh. Rej. 3 C.W.W. Spg. Sptd.	975-40	—
N.G. Tgh. Rej. 4 C.W W. Spg. Sptd.	1,085-20	—
N.G. Dp. 3 C.W.W. Spg. Rej. Sptd.	1,255-20	—
N.G. Tgh. Rej. 4 C.W.W. Spg. Rej. Mix. Htd	557-30	—
N.G Tgh. Rej. 3 C.W.W. Spg Sptd & Htg.	673-30	—
1 C.W. Kota	18,248-30	—
2 C.W. Kota	38,549-40	1,592-00
3 C.W. Kota	11,314-50	—
N G. Tgh. 1 C.W. Kota	5,897-40	—
N.G. Tgh. 2 C.W. Kota	23,850-10	—
N.G. Tgh. 3 C.W. Kota	65,122-30	—
N.G. Tgh. 4 C.W. Kota	7,705-00	—
N G. Dp. 2 C.W. Kota	4,321-30	—
N.G. Dp. 3 C.W. Kota	9,656-50	—
N G. Dp. 4 C.W. Kota	1,279 30	—
Rej. 1 C.W. Kota	815-50	—
Rej. 2 C.W. Kota	424-30	—
Rej. 3 C.W. Kota	882-50	—
N.G. Tgh. Rej. 3 C.W. Kota	1,981-00	—
Sm. 1 C.W. Kota	1,638-00	—
Sm. 3 C W. Kota	358-50	—
N G. Tgh. Sm. 3 C.W. Kota	3,502-20	—
N.G. Dp. Rej. 3 C.W. Kota	2,165-10	—
N.G. Dp. Sm. 3 C.W. Kota	4,641-10	—
Rej. 2 C.W. Kota Sptd.	2,095-40	—
Rej. 3 C.W. Kota Sptd.	10,261-50	—
N.G. Tgh. Rej. 2 C.W. Kota Sptd	11,626-50	—
N.G. Tgh. Rej. 3 C.W. Kota Sptd.	82,871-20	1,345-20
N.G. Tgh. Rej. 4 C.W. Kota Sptd.	9,341-50	—
N.G. Tgh. Rej. 5 C.W. Kota Sptd.	612-00	—
N.G. Dp. Rej. 1 C.W. Kota Sptd.	1,558-00	—
N.G. Dp. Rej. 2 C.W. Kota Sptd.	837-50	—
N.G. Dp. Rej. 3 C.W. Kota Sptd.	35,244-50	—
N.G. Dp. Rej. 4 C.W. Kota Sptd.	1,805-40	—
N.G. Tgh. Sm. Rej. 3 C.W. Kota Sptd.	683-20	—
N.G. Dp. Sm. Rej. 3 C.W. Kota Sptd.	1,382-10	—
N.G. Dp. Sm. 3 C.W. Kota Rej. Sptd.	80-00	—
Rej. 3 C.W. Kota Rej. Sptd. & Htg.	994-50	—
N.G. Dp. Rej. 3 C.W. Kota Sptd. Rej. Htd. & Htg.	175-30	—
N.G. Tgh. Rej. Kota Sptd. & Htg.	223-00	—

	Total Receipts From the West Net bushels	Total Shipments Lake & Rail Net bushels
N.G. Tgh Rej 2 C.W. Kota Rej. Mix Htd	736-40	—
N.G Tgh Sm Rej. 5 C W. Kota Sptd.	1,537-20	—
N.G. Tgh. 3 C W. Kota Mix. Rej. Sptd.	460-20	—
N.G. Tgh Rej. 2 C.W. Kota Sptd. Rej. Mix Htd	—	736-40
Spring & Amber Durum	8,247-00	—
N G Tgh. Spring & Amber Durum	23,569-30	2,416-40
N G Dp Spg. & Amb Dur.	3,530-30	—
N.G Tgh. Sm. Spg. & Amb. Dur.	828-50	—
Rej Spg. & Amber Durum	124-30	15-00
N G Tgh. Rej Spg. & Amb. Dur Sptd.	1,348-50	—
N.G. Tgh. Spg. & Amb. Dur. Mix. Htd.	884-10	—
N.G Dp. Spg & Amb Dur. Rej. Mix. Htd.	774-10	—
N G Tgh Con. Spg. & Amb. Dur. Htd	81-30	—
N G Tgh. Spg. & Amb. Dur. Mix. Coal, Gravel & Cinders	1,336-50	—
Rej Spg & Durum Mix. Htd.	253-50	—
N G Tgh. Rej. Spg & Amb Dur Mix Gravel & Stones	721-00	—
N.G Tgh. Cond. Spg. & Amb. Dur. Htd.	372-30	—
Sm. Amb Dur. & Wild Oats	509-40	—
N G Dp. Amb. Dur. & Wild Oats	330-00	—
N.G. Tgh Sm. Red Dur. & Wild Oats	483-00	—
Amb. Dur. & Wild Oats	3,635-50	—
N G Tgh. Amb Dur & Wild Oats	565-10	—
Wheat & Wild Oats	6,312-00	—
N.G. Tgh. Wheat & Wild Oats	4,723-50	—
N G Dp. Wheat & Wild Oats	526-20	—
Sm Wheat & Wild Oats	791-50	—
Kota & Amber Durum	1,001-00	—
N.G Tgh. Kota & Amber Durum	—	1,000-00
N.G. Tgh Spring & Kota	936-40	—
N G. Tgh Kota, Spring & Amb. Dur.	1,158-50	—
N G Tgh Rej. Kota & Amb. Dur. Sptd.	535-50	—
N.G. Tgh. Red & White Spring	5,581-20	—
N.G. Tgh. Spring & Red Durum	1,097-20	—
Sm. 3 C.W. Amb. Dur. & Spg. & W. Oats	483-50	—
N.G. Tgh. White & Red Spg.	381-50	—
N G. Tgh. Rej. 3 C.W. Amb. Dur. & W. Spg. Sptd.	1,096-40	—
N.G. Tgh. Red Durum & W. Spring	1,057-40	—
N.G. Tgh. Cond. W. Spg. Sptd. Mix. Htd. & Htg.	356-10	—
Sample	4,291-10	411-10
Not Inspected	—	1,200-00
Cond. Amb. Dur. Mix. Htd	—	245-00
GRAND TOTAL—	159,474,909-40	154,308,411-00